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American Pharmaceutical Association

Practical Pharmacy Edition

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Washington Views

Distribution controls over amphetamine and barbiturate compounds under Federal regulation for the District of Columbia are being worked out by Senate and House Committees with a fair chance that legislation will emanate from this Session of Congress requiring pharmacists to make biennial inventories of these drugs, without including large numbers of derivatives, preparations and compounds which are not considered habit-forming or dangerous.

It is also provided that inspections of pharmacies with respect to prescription files in connection with legislation dealing with distribution of these drugs will be limited to District authorities.

The U.S. Public Health Service has appointed a 9-member Advisory Committee on Indian Health to assist in the improvement and expansion of medical care and health services to American Indians.

Inspectors of the FDA, attempting to make illegal purchases of amphetamine "stay-awake" pills, report the drugs are not now readily available in localities where prosecutions were started last year, and that truck drivers have quit taking the pills after being warned against the dangers of their use. FDA Commissioner George P. Larrick said action against illegal distribution of these drugs will be stepped up in other areas.

An inventory of commercial industrial activities of the Federal government published by the Bureau of the Budget lists 19,771 government business enterprises employing 258,425 civilians and having capital assets of $11,863,990,569.

Roswell B. Perkins, Assistant Secretary, HEW, was named Chairman of the Federal Council on Aging at a meeting of representatives of the 13 participating Federal agencies held on May 23.

The first annual National Civil Defense Week, which has the approval and support of President Eisenhower, will be held September 9-15. The FCDA, with state and local civil defense units, will plan activities in cities and towns across the nation.

According to George P. Larrick, Commissioner of Food and Drugs, the FDA is so short of inspectors that the 96,000 food, drug, beverage, and cosmetic establishments responsible for $165,000,000,000 worth of interstate commerce each year, can be visited only once in 9 years.

Employment opportunities for pharmacists are good throughout the country. New graduates can readily be placed in pharmacies, drug manufacturing firms, and hospitals.

. . . and last-minute news

Nearly 325,000 bachelor's degrees will be awarded this spring—some 40,000 more than in 1955 but 100,000 below 1950; also 57,000 will receive master's degrees, and 8,300, doctorates.

According to Basil O'Connor, President of the National Foundation for Infantile Paralysis, paralytic polio in the U.S. can be cut in half during the epidemic period of 1956 and can be reduced to a negligible amount in 1957 if there is a coordinated effort during the remaining months of 1956 to immunize the groups having the highest incident rate of the disease. In the 0 to 19 age group and pregnant women (65,000,000) is found 80% of paralytic polio cases.

The U.S. District Court has dismissed action brought by Walgreen Drug Company, Snyder's Drug Stores, Inc., and Elkon, Inc., against the Minnesota Board of Pharmacy seeking to nullify the Board of Pharmacy prohibition of self-service of drugs, medicines, chemicals, or poisons.

The proprietary drug industry has reached the $1,000,000,000 business milestone, according to Stanley I. Clark, President of the Proprietary Association.

India's efforts to eradicate use of opium as a household remedy has resulted in a steady decline in the quasi-medical consumption from about 160 tons in 1949 to approximately 90 tons in 1954, under a 10 year plan for its abolition adopted by the Indian government.

Appointment of Dr. Albert J. Sica as Dean of the College of Pharmacy of Fordham University was announced by the President, Reverend Laurence J. McGinley, S.J., effective July 1.

The 19th edition of the American Medical Directory, published May 26 by the A.M.A., provides information on 240,638 physicians in the U.S., its dependencies, and in Canada.

At the First International Symposium on Venereal Diseases and the Treponematoses sponsored by WHO and the U.S.P.H.S., venereal disease as a teen-age problem was stressed. In some states as high as one-fourth of all cases of gonorrhea continue to be in the teen-age group.

Philatelists will be able to obtain first-day special stamps commemorating the 50th anniversary of the Food, Drug and Cosmetic Act and the Meat Inspection Act on June 27 by ordering them from the Philatelic Office, Room 5509, Post Office Department, Washington 25, D.C. Record sales are expected.

LETTERS

"A Pal in Every Port"

Sirs:

While I wrote the enclosed essay, "A Pal in Every Port," for the publication of a national pharmaceutical fraternity, I meant it to be a tribute to all pharmacists, everywhere.

It then occurred to the editor and myself that you might want to reprint this article, in whole or in part, so that it might reach as many readers as possible. If you care to do so, you are welcome.

Charlestown, Ind. J. E. SCHMIDT, *M.D.*

Editor's Note: Dr. Schmidt's essay is abstracted on page 371.

Manual No. 101

Sirs:

You are to be commended for the excellent publication "A.PH.A. Manual No. 101—Suggested Antidotes." Having practiced pharmacy for a number of years, I am acutely aware of the role the practicing pharmacists play in poisoning cases.

The State of Florida is about to set up 13 Poison Centers, and our Dade County unit opens this Sunday. It is gratifying to see these centers evolving.

As manufacturing pharmacists, we are called upon to offer advice in poisoning cases. At this time, I should like to request at least 4 copies of Manual No. 101. These manuals will be inserted into the telephone books located throughout the plant.

In closing, I should like to say that I am proud to be a member of the A.PH.A., particularly when services of such magnitude are made available to the pharmacist. Service of this type will certainly raise the prestige of the profession.

JEROME SCHIMMEL, *Ph.D.*

Miami, Fla. *Technical Director, Hart Drug Corp.*

Editor's Note: Manual No. 101 is available at 40¢ for individual copies and 22¢ per hundred copies from the AMERICAN PHARMACEUTICAL ASSOCIATION, 2215 Constitution Avenue, Washington 7, D.C.

Manual No. 102

Sirs:

I want to take this opportunity to thank you personally for the copy of "Drug Products, Official Titles and Trade Names, USP XV–NF X" which I received at the recent regional meeting of the Maryland Pharmaceutical Association held at Peter Pan Inn.

Albert Rosenfeld and I have already used it several times, and each time we have found the needed information immediately. Just today, for example, a prominent East Baltimore physician called one of our pharmacists for data on Procainamide Hydrochloride. Much to his surprise and ours, too, we found that the store actually had the needed material on hand under the trade name of Pronestyl (Squibb) and as a result the doctor, who incidentally was quite appreciative, was able to prescribe the needed medication promptly.

I am sure that many of the pharmacists who attended this meeting will find their booklet on this subject just as useful as we did ours, although not too many may write you about it.

Baltimore, Md. H. NELSON WARFIELD

Refunds for Reusable Medication

Sirs:

In our hospital pharmacy we give credit for unopen ampoules and vials only. We are highly criticized by the nurses for not giving credit for *all* medications. Please let us have your opinion on what should be done.

St. Louis, Mo. "WORRIED PHARMACIST"

Editor's Note: The policy on credit for drugs should probably be an administrative decision. It should be fair to the patient and yet conform with sound practices to compensate adequately for services rendered. The amount of medication ordered by the physician is in the interest of a particular patient's care and the patient should be expected to pay for services rendered.

It is apparently common practice to make refunds, on the basis of what may be classified as reusable medication, only above a specified value. This value ranges from 50¢ to $3 in various hospitals, perhaps most commonly, $1 or $2. Generally the value of reusable material below this value, for which no credit is given, will offset the cost of services rendered in handling medication costing more than the specified value.

New Prescription Products

Sirs:

This is to congratulate you for the splendid work you have been doing for pharmacy. I use every magazine that you send. The New Prescription Products section is very helpful to me.

Russiaville, Ind. HAROLD W. QUINN

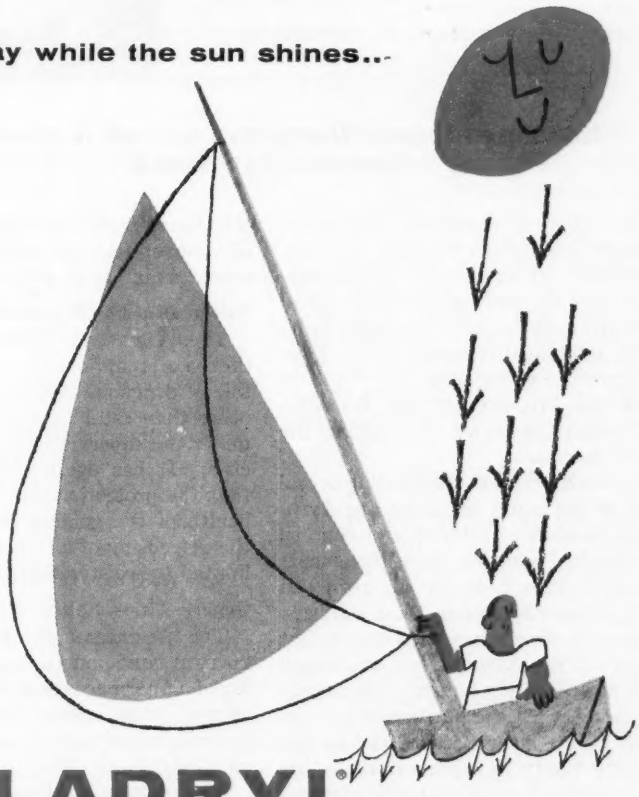
Bouquets

Sirs:

I do not take time very often to thank you folks for all the good that you are doing; neverthless I appreciate all of it. Thanks.

Chester, Ill. VIC DASCHKA

make hay while the sun shines...



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STRAIGHT FROM
HEADQUARTERS

ROBERT P. FISCHELIS, SECRETARY

The American Pharmaceutical Association Speaks for Itself

FROM time to time witnesses before Congressional committees dealing with current legislation, writers in the pharmaceutical press, and speakers at State and local pharmaceutical association meetings who are not the designated representatives of the A.PH.A. presume to expound the stand of the AMERICAN PHARMACEUTICAL ASSOCIATION on various problems confronting the practice of pharmacy.

We have no objection to the printing or oral exposition of the stand taken by our ASSOCIATION on matters of interest and concern to the profession provided these statements are accurate and are based on the expressed policy of the ASSOCIATION on these subjects.

From time to time it has been stated that the position of the ASSOCIATION on certain matters is not definitely known. Obviously there are times when the position of any organization is not clear because it has not had the opportunity to express itself by the vote of its members or their authorized representatives.

Policies of the AMERICAN PHARMACEUTICAL ASSOCIATION are formulated by its House of Delegates at the annual conventions and are expressed in the form of resolutions. In the interim between conventions the Council of the ASSOCIATION is authorized to establish policies and to express the stand of the ASSOCIATION if the Council can reach conclusions without further reference to the House of Delegates.

In view of the actions taken by the ASSOCIATION at its 1956 Convention at Detroit, it may be well to state its position on several matters now under discussion in pharmaceutical circles.

H.R. 11 and S. 11

The AMERICAN PHARMACEUTICAL ASSOCIATION favors the provisions of H.R. 11 and S. 11 now pending in the Congress of the United States and dealing with "equality of opportunity" as between large and small operators in the retail field.

Sale of Drugs by Merchants

The AMERICAN PHARMACEUTICAL ASSOCIATION is opposed to the indiscriminate sale of drugs and medicines in retail outlets other than establishments conducted by or under the supervision of registered pharmacists. It has again reiterated its position that the protection and safeguarding of the health of the general public demands that the dispensing of all drugs and medicines be limited to registered pharmacists.

Generic Titles, Substitution and Duplication

The AMERICAN PHARMACEUTICAL ASSOCIATION condemns as unethical the dispensing of a pharmaceutical preparation or brand thereof, other than that ordered or prescribed, unless such act is specifically authorized by the prescriber.

The AMERICAN PHARMACEUTICAL ASSOCIATION encourages the use of generic names in the prescribing and dispensing of drugs.

The AMERICAN PHARMACEUTICAL ASSOCIATION condemns as unethical the practice indulged in by some manufacturers of duplicating, imitating, counterfeiting, or otherwise simulating the products manufactured by others engaged in the pharmaceutical industry.

Barbiturate Regulation

The AMERICAN PHARMACEUTICAL ASSOCIATION urges each State Pharmaceutical Association to make a searching study of the so-called "barbiturate and dangerous drug problem" to determine whether its state law dealing with the matter is adequate to cope effectively with the serious social problems created in each state by the abuse and misuse of these drugs.

The AMERICAN PHARMACEUTICAL ASSOCIATION urges that vigorous efforts be made

during the 1957 sessions of the legislatures of the several states to secure the enactment or amendment of state acts for the rigid control of these drugs wherever state legislation is inadequate for the protection of the public health and safety in the handling of these drugs and that provisions be made for the effective administration and enforcement of such acts, to the end that each state may discharge its social, legislative, and administrative responsibility to its citizens with respect to this problem.

Conversion of "Legend Drugs"

The AMERICAN PHARMACEUTICAL ASSOCIATION is on record as opposing release of so-called "legend drugs" for over-the-counter sale at least until such time as the Food and Drug Administration or any other governmental organization designated for that purpose shall have proved that the drugs previously subject to dispensing only on prescription are in fact safe for distribution without the necessity for medical supervision of the patient.

Remington Medal to Moudry

THE Past Presidents of the AMERICAN PHARMACEUTICAL ASSOCIATION who constitute the jury of award for the Remington Honor Medal have selected Frank W. Moudry, long-time Secretary of the Minnesota State Board of Pharmacy, as the recipient for the 1956 award. This honor medal is bestowed each year by the New York Branch of the AMERICAN PHARMACEUTICAL ASSOCIATION upon that pharmacist, who, in the judgment of the Past Presidents of the AMERICAN PHARMACEUTICAL ASSOCIATION, has accomplished most for American pharmacy either during the previous year or over a span of years.

Dr. Moudry has a distinguished record of outstanding service to American pharmacy. He was responsible for much of the planning and most of the execution of the forward-looking program of pharmacy law enforcement in the State of Minnesota. Working with the Attorney-General of that State, he and his Board have succeeded to a greater extent than any other state in preventing encroachment upon the prerogatives of pharmacists in the dispensing of drugs and medicines. They have therefore earned the gratitude of the public as well as of the profession as protectors of the health of the people who are unable to guard themselves against indiscriminate distribution of potent and dangerous drugs.

Dr. Moudry has been recognized by his colleagues through election to high office in national, state, and local organizations and he has also been honored by the University of Minnesota, of whose College of Pharmacy he is a distinguished alumnus. He is one of two pharmacists named by the U.S. Secretary of Health, Education and Welfare to serve on the National Advisory Committee on Poliomyelitis Vaccine.

Announcement of this honor, which will be conferred upon Dr. Moudry by the New York Branch at a dinner with appropriate ceremonies later this year, will be received with much gratification by his many friends and the pharmaceutical fraternity in general. We congratulate Dr. Moudry upon his selection as the Remington Medalist for 1956.

Hugh C. Muldoon

ON ANOTHER page of this issue of the JOURNAL we record the passing of Dr. Hugh C. Muldoon who recently retired as Dean of the College of Pharmacy of Duquesne University. Dr. Muldoon served pharmacy well in many capacities. Not only was he an outstanding teacher and an advocate of the highest standards of ethics and morals for the profession of pharmacy, but he was one who practiced what he preached and who could, by the force of his oratory and earnest participation in the development of pharmaceutical organizations, sway groups of students and practitioners of pharmacy to accept forward-looking programs and plans.

Perhaps one of his most outstanding contributions to the literature of pharmacy, which includes a number of textbooks and scientific and professional essays, was his Remington Medal address which he entitled "The Strengths of Pharmacy." The concluding sentences of this address were in the nature of a prophecy which characterized his own faith in the future. He said, "Pharmacy is strong today. It will continue to be strong because of the character and motivation of its personnel; because of public trust based on age-long faithful and intelligent service; because of its respect for education; because of its awareness of its problems and its willingness to face them; because of its deep concern for the future."

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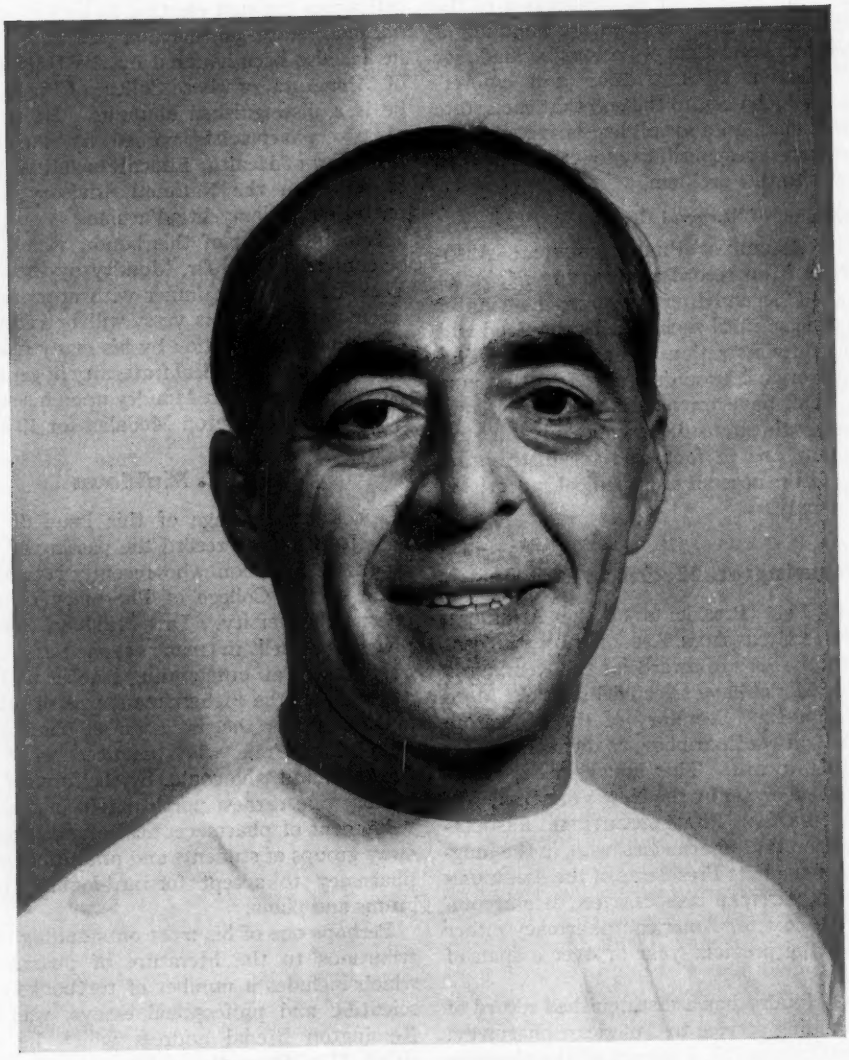

Harry Feldman (1223 River St., Hyde Park, Mass.) says: "Benzedrex* Inhalers have definite consumer appeal and are pre-sold. My permanent display carton, alongside the cash register, has proved this fact and has increased my sales considerably."

To get the attractive 'Benzedrex' Inhaler display carton, always be sure to order in dozens. *Smith, Kline & French Laboratories.*

*T.M. Reg. U.S. Pat. Off.

A Pal in Every Port*

The pharmacist would consummate his duty if he but filled the physician's prescription, but he chooses to do much more. He is always the physician's friend, and often his counselor, his confidant, his secretary, his intermediary, his defender, his promoter, his handyman, his jester, his debunker, his yes-man, his scapegoat, his patient listener, and, sometimes, even his doctor!

A physician can never feel alone or forsaken, no matter what the situation or where he might be—at home, thousands of miles away, or in a foreign country—so long as there is a pharmacy in sight. I have found this to be true while I lived and practiced in Baltimore, while I traveled the breadth and length of our country, and while I toured the polyglot countries of Europe. There was a pal in every port. There seems to be a built-in, universal welcome for every physician in every pharmacy, and it comes to life the instant you utter the apparently magic words, "I am Dr. So-and-So."

It was always very heartening to me and most inspiring to observe, when dropping in on a neighboring pharmacist or occasionally on a perfect stranger at the end of a long and, for him, tiring day, the Aladdin-like transformation of a haggard face into a beamingly cheerful one at the moment of recognition or as soon as I introduced myself. Pharmacists are either born with or develop somewhere along the way a secret reservoir of patience, tolerance, stamina, wisdom, and indefatigability which is set aside for the medical profession and which springs open with a cornucopial abundance the moment the physician opens his mouth—and no matter what the time of day or night.

And nowhere—but nowhere—can the physician who has just been bawled out by an ungrateful patient, or who has made a wrong diagnosis, or who has lost a patient, regain the composure, his peace of mind, and his self-respect as he can at the prescription counter of his favorite pharmacist. No one but the pharmacist can make the physician feel so important, so well-informed, so self-sacrificing, so charitable, so noble, so dedicated, and so indispensable!

The physician who accepts all these good things as a matter of course is, I am afraid, ungratefully callous. He who accepts these courtesies as a perquisite of his medical degree has, I suspect, an inflated estimate of his privileges. And the physician who has come to accept good manners as mere vassalage, or who looks upon the pharmacist as a naive fellow who didn't quite make the medical school, is undoubtedly suffering from sclerosis of the I.Q.

Sulfur Dioxide Preparations Nonlegend

Sulfur dioxide preparations, containing not more than 5 Gm. SO_2 per 100 cc., for external application to smooth skin are exempted from prescription-dispensing requirements [*Fed. Reg.*, **21**, 3247(May 17, 1956)].

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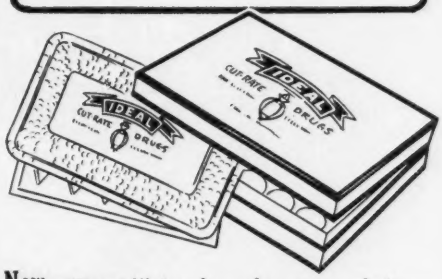
* From an article by J. E. Schmidt, M.D., *Azoan Junior*, page 6 (March 1956).

PICTORIAL presents . . .

New — Moisture Guarded Prescription Package



Now, "Pictorial" introduces the most revolutionary improvement in Prescription packaging since the introduction of the hinged-lid.

The presence of an absorbant material in a prescription package, eliminates to a larger degree any presence of moisture within the container, whether paper, glass or plastic. Cellulose pads are found to be the best in performing this function.

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News *and* Notes

ASSOCIATIONS

American Animal Health Pharmaceutical Association held its annual convention this year for the first time in Canada at the King Edward Hotel, Toronto, from May 27 to 30. The convention program provided comprehensive information on drugs and biologics used in the animal health field.

Association of Medical Advertising Agencies, Inc., has announced the election of *Dr. Arthur M. Sackler*, President of William Douglas McAdams, Inc., as President of the association. Other elected officers are: *Robert Wilson*, President of Robert E. Wilson, Inc., and *Paul Klemtner*, President of Paul Klemtner & Co., Inc., as Vice Presidents; *Charles Lewis*, Vice President of L. W. Frohlich & Co., Inc., as Treasurer. *William Duryea*, Vice President of McAdams, was appointed *Executive Secretary*.

Galen Pharmaceutical Association, affiliated with the New York State Pharmaceutical Association, met May 8 at the Hotel Westbrook, Buffalo, N.Y., to hear *Frank Emma* discuss "Where Do We Go From Here?" Mr. Emma is Deputy Secretary of the State of New York and a pharmacist.

Glycerine Producers' Association has announced that the 5th annual Glycerine Research Awards are now open and nomination blanks available. First award is $1000 and an honor plaque, second award $300, and third award $200. These awards are granted for independent research leading to new and improved applications of glycerine or glycerine derivatives to products or processes. Complete details on the awards may be obtained from the Glycerine Producers' Association, 295 Madison Avenue, New York 17, N.Y.

Massachusetts State Pharmaceutical Association has just issued a "Massachusetts Dental Formulary." The first edition of this work is divided as follows: Part I—How To Write a Prescription; Part II—Useful Prescriptions; Part III—Preparations for Use in the Dental Office. The preface carries the following statement: "The use of prescriptions in dentistry assures the patient the benefit of exact dosages of drugs selected for his condition and represents careful, considerate, and individualized service which he appreciates and respects. This practice brings dentists in closer cooperation with physicians and pharmacists in the common effort to reduce the harmful and increasing tendency to self medication so often indulged in by patients."

New York State Pharmaceutical Association will honor *Leslie C. Jayne* at a dinner on June 14 during its convention at Upper Saranac Lake, N.Y. Mr. Jayne recently retired as Secretary of the Board of Pharmacy of New York State after 15 years in that position.

North Carolina Pharmaceutical Association held its annual convention May 8–10, at the Sir Walter Raleigh Hotel, Raleigh, N.C.

The **U.S.P. Board of Trustees** has announced the appointment of *Dr. Robert W. Elkas* to the newly created position of Assistant to the Director of Revision. Dr. Elkas completed his undergraduate work at the Massachusetts College of Pharmacy and was awarded his doctorate by Purdue University, where he held a teaching assistantship and research fellowship. For 8 years he served as Assistant Director of Pharmaceutical Control at *Sharp & Dohme*.

COLLEGES

Massachusetts College of Pharmacy held another of its refresher courses during May. On May 1, *Sidney Farber* presented "The Present Status of the Chemotherapy of Cancer" and *Samuel Silverman* discussed "Desirable Changes in Legislation Affecting Pharmacy." On May 3, *Samuel B. Beaser* offered "New Oral Insulin-like Agents." *Raymond W. Vander Wyk* discussed "The Nature and Properties of Viruses," and *Edwin E. Wilson* spoke on "Aseptic Procedures in the Retail Pharmacy." On May 8, *Peter J. Mozden* considered "A Review of Cardiovascular Diseases and Their Treatment," and *Leslie M. Ohmart* discussed "Professional Promotion Using the New Dental Formulary." On May 10, *Wilbur E. Powers* spoke on "Public and Interprofessional Relations" and *Mitchell J. Stoklosa* conducted a "Prescription Clinic."

University of Florida College of Pharmacy held its annual Open House March 8–11. This was the third consecutive year in which the college has held Open House in conjunction with the Engineer Fair. The attendance, the largest yet, was estimated at well over 6,000. *Joseph Pace*, President of the Mortar & Pestle Student Branch of the A.PH.A., was general chairman. *Charles S. Haupt* was the organizer and counselor.

University of Georgia School of Pharmacy announces that 40 nurses have received certificates for completion of a 10 weeks' course in pharmacology conducted by *Professors S. D. Feurt* and *W. F. Dobbs*.

University of Houston College of Pharmacy students, *Linda Hollingsworth Miller* (senior) and *Mamie LoSavio* (junior), are the joint 1955–56 recipients of the annual Harris County Pharmaceutical Society Ladies Auxiliary scholarship . . . . The junior and senior students of the College of Pharmacy returned to Houston on May 20 from their annual spring trip to pharmaceutical manufacturing companies located in the Eastern States . . . . The Houston Pharmacy Liaison Committee honored the graduating seniors and the faculty of the college with a dinner-dance on the evening of June 5. This was the seventh annual dinner tendered by the Committee for graduates of the school.

University of Pittsburgh School of Phamacy has received a grant of $2,386.80 from *Hoffmann-La Roche*

Dr. Robert A. Hardt

◀*Rutgers University conferred an honorary Doctor of Pharmacy degree on Robert A. Hardt, Vice President and Director of Hoffmann-LaRoche Inc., at its commencement exercises at New Brunswick, N.J., on June 6.*

for an investigation of certain derivatives of thiamine. The study will be conducted under the supervision of *Dr. Joseph P. Buckley*, Associate Professor of Pharmacology.

St. John's University College of Pharmacy has appointed *Dr. Andrew J. Bartilucci* as Dean, effective September 1. Dr. Bartilucci, Assistant Dean since 1954, succeeds Dr. John L. Dandreau, who has retired.

GOVERNMENT

Army—*Col. Bernard Aabel*, Chief of the Army Medical Service Corps, has received the award for outstanding achievement by the University of Minnesota, from which he was graduated in 1932. The award consists of a gold medal and an embossed citation.

Post Office Department—On June 27 the P.O. Department will issue a special stamp commemorating the 50th anniversary of the Food, Drug and Cosmetic Act and the Meat Inspection Act. First-day sales of this stamp will be made in Washington, D.C., and they can be purchased in local post offices throughout the country thereafter.

The **Smithsonian Institution** and the **Food and Drug Administration** jointly announced the opening of a new exhibit commemorating the 50th anniversary of the passage of the 1906 Federal Food and Drugs Act.

The exhibit, located in the Smithsonian's gallery of medical history, opened May 4 at special ceremonies at the Institution. Those who participated in the ceremonies included *Mrs. Harvey W. Wiley*, widow of the father of the Pure Food and Drug Law, *Dr. Leonard Carmichael*, Secretary of the Smithsonian Institution, Assistant Secretary *Bradshaw Mintner* of the Department of Health, Education, and Welfare, and Commissioner *George P. Larrick* of the Food and Drug Administration.

The exhibit highlights the story of the 23-year battle carried on by Dr. Wiley to secure a Federal law which would curb the sale of harmful foods and drugs.

Mrs. Harvey W. Wiley, FDA Commissioner George P. Larrick, and Dr. Leonard Carmichael (l. to r.) ▶

New officers and former President of the Illinois Society of Hospital Pharmacists (l. to r.): Ed Hartshorn, Sec.-Treas.; Louis Gdalman, Chief Pharmacist, St. Luke's Hospital, Chicago; Morris Gordon, Pres.; Lewis Cooke, Vice-Pres.

HOSPITAL PHARMACY

Catholic Hospital Association held an outstanding Institute on Hospital Pharmacy in conjunction with its annual meeting in Milwaukee, Wisc., on May 19–22. Approximately 75 hospital pharmacists were enrolled, many of whom represented small hospitals. The program was arranged by the C.H.A.'s Committee on Hospital Pharmacy Practice, which was chaired by *Sister Marian* from St. Elizabeth's Hospital, Elizabeth, N.J., with the Wisconsin Society of Hospital Pharmacists, the A.PH.A., and the A.S.H.P., the latter two joining to hold an exhibit during the course of the convention.

The program was directed particularly to the pharmacy requirements in small hospitals. Hospital pharmacists who participated in the program were *Clifton J. Latiolais, Robert C. Bogash, Sister M. Florentine, Dr. William Heller, Paul Parker, Dr. Edward J. Ireland, Daniel Moravec, William Benka, Mrs. Evlyn Gray Scott, Dr. George Archambault, Paul Bjerke*, and *Sister M. Francine.*

Maryland Association of Hospital Pharmacists—A one-day seminar on hospital pharmacy will be held on Saturday, June 30, at the Kelly Memorial Building in Baltimore. The seminar will be sponsored by

Speakers at the Catholic Hospital Association's Institute on Hospital Pharmacy (l. to r.) Dr. V. E. Levine, Prof. of Biological Chemistry & Nutrition, Creighton University School of Medicine; Dr. R. P. Fischelis, Secretary, A.PH.A.; Sister M. Blanche, O.S.F., Chief Pharmacist, Sacred Heart Sanitarium, Milwaukee; Robert C. Bogash, New York City and Clifton J. Latiolais, Ann Arbor, Mich.

Pfizer Laboratories in cooperation with the School of Pharmacy at the University of Maryland and the Maryland Association of Hospital Pharmacists. Hospital pharmacists and hospital administrators of the area are invited to participate in the program which will begin promptly at 8:00 A.M. and adjourn at 4:45 P.M.

Plans are taking shape for the establishment of a **Northeastern Florida Hospital Pharmacy Group.** Several meetings were held in Jacksonville last month, and the foundation has been laid for a stable organization. Active participants are: *Charles W. Mullis, Anita Pagnini,* and *Ralph C. Tolar* from Duval Medical Center; *Allen A. Ford* from Baptist Memorial Hospital; *Shirley Lee Nelms* and *Jean W. Poucher* from St. Vincent's Hospital; and *C. B. Barnett* and *Charles F. Williamson* from St. Luke's Hospital.

Tri-State Hospital Assembly, Hospital Pharmacy Section, which includes Illinois, Indiana, Michigan and Wisconsin, met in Chicago on May 2 and 3. *Peter Solyom,* Chief Pharmacist at the University of Chicago Clinics, was chairman for the meeting and *John Kuebler,* Chief Pharmacist at Henry Ford Hospital in Detroit, was elected chairman for the coming year.

INTERNATIONAL

Holland—*H. van der Meer,* Chairman of the Student Exchange Committee of the International Pharmaceutical Student's Federation, Leiden, Holland, is appealing to the pharmacists of all countries to open their pharmacies to foreign students who wish to look beyond the scope of their own country's pharmacy. Student exchange may be effected among the countries of Western Europe, Yugoslavia, United States, Canada, India, Australia, and South Africa. Application forms for both pharmacists and students are obtainable from the IPSF-Liaison Secretary or the Chairman of Student Exchange in any of these countries.

Switzerland—The 9th World Health Assembly convened at Geneva, on May 8. Present were delegations from most of the 85 members and associate members of WHO. The Assembly reviewed WHO health work in over 100 countries, planned future activities, and adopted the 1957 budget. The United States delegation was headed by *Dr. Leonard A. Scheele,* Surgeon General, U.S. Public Health Service.

MANUFACTURERS

Ames Company has elected *Edward L. Miles,* Vice President in Charge of Advertising, to his first term as a member of the Board of Directors. All other directors were re-elected.

Bayer Company Division of Sterling Drug Inc. has announced the retirement of *Harvey M. Manss* who served as a Sterling Vice President for almost 20 years. Mr. Manss has reached the mandatory retirement age of 70.

Becton, Dickinson and Company has announced association of its interests with Bard-Parker Company, Inc., of Danbury, Conn., through an exchange of stock on May 1. Bard-Parker manufactures surgeons' blades and holders and B-D produces hypodermic equipment, clinical thermometers and elastic bandages.

Lederle Laboratories has made research grants totaling $30,000 to six universities to study one of the major disease problems affecting the nation's 4½-billion dollar poultry industry, "chronic respiratory disease," caused largely by organisms which resemble those responsible for pleuro-pneumonia. Universities receiving the grants are: University of California, University of Connecticut, University of Delaware, University of Illinois, University of Maine and the University of New Hampshire. The studies seek to determine all the causative factors in chronic respiratory disease (CRD), methods of detection, and ways to eradicate it.

Vick Chemical Company has announced the winners in the annual Lunsford Richardson Pharmacy Awards: First Prize checks for $1,000 each went to *Anthony J. Taraszka,* senior at Rutgers University; *Roger H. Sloop,* senior at the University of North Carolina; *Leon Lachman,* graduate student at the University of Wisconsin; and *Vasantkumar J. Patel,* graduate student at the University of Southern California. Additional prizes of $1,000 each were awarded to the schools of the first prize winners, and Honorable Mention prize of $100 each and a certificate went to the runners-up.

Warner-Chilcott Laboratories announces the promotion of *Raphael Cohen* to the newly created position of Manager of Laboratory Products . . . . **Warner-Lambert Pharmaceutical Company** has named *Philip A. Singleton* Executive Vice President of the Pro-phy-lac-tic Brush Company, a Warner-Lambert subsidiary.

H. George Wolfe (r.), Advertising Manager of the Merck & Co., Inc., Chemical Div., receives new 2¢ post card at Fifth International Philatelic Exhibition in New York City. Robert E. Fellers (left) is Director of Philately of the U. S. Post Office Department.

STUDENT & LOCAL BRANCHES

LOCAL BRANCHES

At the May meeting of the **Baltimore Branch,** *George Griffenhagen,* Acting Curator, Division of Medicine at Smithsonian Institution and Consultant to the A.PH.A museum, was the guest speaker. Mr. Griffenhagen presented slides and films depicting pharmacies through the years. Program chairman for the meeting was *Morris L. Cooper,* prominent Baltimore pharmacist and inventor of the Cooper mortar and pestle.

The **City of Washington Branch** and the Maryland Association of Hospital Pharmacists held a joint meeting at the National Institutes of Health Clinical Center on May 4. *Dean Joseph B. Sprowls* of the School of Pharmacy at Temple University was guest speaker. His address dealt with advanced ideas in the teaching of pharmacy subjects. The evening was climaxed with a tour of the pharmacy and central sterile supply facilities.

Newly elected officers of the **Baltimore Branch** are *Stephen J. Provenza,* president; *Francis S. Balassone,* vice president; and *Paul A. Pumpian,* secretary-treasurer. Mr. Provenza is an active participant in interprofessional relations of the pharmacy-medical-dental organizations in the Baltimore area, and is a past president of both the Baltimore Retail Druggists' Association and the Alumni Association of the University of Maryland School of Pharmacy. Mr. Balassone is the newly appointed chief of the Division of Drug Control of the Maryland State Department of Health and Secretary of the Maryland Board of Pharmacy. Mr. Pumpian is a member of the faculty of the University of Maryland School of Pharmacy.

At its March meeting the **Indianapolis Branch** heard *J. Warren Lansdowne,* chairman of the A.PH.A. Committee on Public Relations, discuss the advantages to the pharmacist of being a member of the ASSOCIATION. *Benjamin A. Smith* of *Eli Lilly and Company* gave a brief statistical report on increases recorded in prescription volume and introduced the film "Do You Fill Prescriptions Here?" produced by the *Owens-Illinois Company* in conjunction with the *National Wholesale Druggists' Association.*

"Project Health" is the program being undertaken by the **New Orleans Branch** in working with other segments of the health profession in disseminating health information literature to the public through retail pharmacies. In February the Branch cooperated with the *American Heart Association* in the distribution of leaflets through some 75 selected pharmacies. The program was so successful that the Branch was approached by the Orleans Parish Unit of the *American Cancer Society* requesting aid in the distribution of its material during April "Cancer Control Month." The latter project included the distribution of leaflets to all 350 pharmacies in the greater New Orleans area. Each leaflet so distributed carried an imprint on the back page which read: "Distributed by Courtesy of Your Neighborhood Pharmacist." The Branch also cooperated with the *Orleans Parish Medical Association* in the observance of Medical Education Week, April 22–28. "Project Health" has been developed largely through the efforts of *Ben Bavly,* Secretary of the New Orleans Branch, who represents pharmacy on the Health Planning Committee of the Voluntary Health Agencies, which is a part of the *Council of Social Agencies of New Orleans.*

The **New York Branch** planned its meeting of April 23 to attract pharmacy students in the New York area. Participating in the meeting held at the *Columbia University College of Pharmacy* were students from each of the four local colleges. The speakers and their topics were as follows: *James Echeandia, Columbia University,* "What Subjects Should Be Included in the 5-Year Curriculum?"; *Robert Scalice, St. John's University,* "Are Professionalism and Unionism Incompatible?"; *George Sims, Fordham University,* "How Can the A.PH.A. Be of Greater Service to Pharmacists?"; and *Harry Berger, Brooklyn College of Pharmacy,* "Are There Too Many Pharmaceutical Organizations?" *Charles C. Rabe,* assistant to the Secretary of the A.PH.A., served as moderator of the meeting which was presided over by New York Branch President *Irving Rubin.*

The **Northern California Branch** sponsored a one-day postgraduate seminar program at the University of California Medical Center in San Francisco on April 29. The program presented by the University of California was as follows: "Introduction to Seminar," *Dean Troy C. Daniels;* "New Drugs Used in the Treatment of Cardiovascular Disease," *Dr. Francis L. Chamberlain,* Associate Clinical Professor of Medicine; "The Toxicology of Newer Economic Poisons," *Dr. Charles H. Hine,* Associate Clinical Professor of Pharmacology and Toxicology; "The Approach to Present Day Problems in Parasitology," *Dr. Herbert G. Johnstone,* Professor of Parasitology; and "Tranquilizing Drugs," *Dr. Frederick H. Meyers,* Assistant Professor of Pharmacology.

At the April 18 meeting of the **Northern New Jersey Branch,** *Philip Wittcoff,* New Jersey State Police Narcotic Squad detective, discussed the "Responsibilities of Pharmacists in Narcotic Medi-

(continued on page 380)

New Chicago Branch officers (l. to r.) are Phillip Ritzlin, 3rd V. P.; R. David Allen, 2nd V.P.; Herbert Arnold (Toastmaster); Howard Stephens, Pres.; Dwight L. Deardorff, 1st V.P.; Peter Solyom, Sec.-Treas., installed at the joint dinner meeting with the Illinois Society of Hospital Pharmacists.

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BONAMINE TABLETS. Scored, tasteless			
Boxes of 8	4281	.66	1.10
Bottles of 100	4271	7.20	12.00
Bottles of 500	4286	32.40	54.00

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Branches

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cations." Guest speaker at the May 16 dinner meeting was *Andrew Salvest*, attorney assigned to the Board of Pharmacy by the Department of Law and Public Safety, who spoke on "My Experiences with Professional Boards." The following newly elected officers were installed at this final meeting of the year: *Walter Uhlmann*, President; *Sidney Schneider*, First Vice President; *Emil Martini, Jr.*, Second Vice President; and *Michael Iannarone*, Secretary-Treasurer.

At the April meeting of the **Northwestern Branch,** pharmacists' problems in purchasing prescription products and how salesmen can be more helpful to the pharmacist were treated by *Harold Kulp*, practicing pharmacist, and *A. O. Peterson, Eli Lilly and Company* representative. Also included in the program was the film "Plus Four" presented by *James Kuhnhein*, local sales manager for McKesson and Robbins.

Edson F. Woodward, chief pharmacognosist for *S. B. Penick & Company*, was the dinner speaker at the **Philadelphia Branch** meeting on April 5. Mr. Woodward chose "Searching for Rauwolfia and Other Drugs in India and Africa" as his subject. Later in the evening *Francis L. Schmehl*, assistant chief of the *Cancer Chemotherapy National Service Center*, Bethesda, Md., spoke on "The Cancer Chemotherapy National Program."

STUDENT BRANCHES

The **Brooklyn College of Pharmacy Student Branch** has elected the following officers for the coming year: *Russel Hertz*, President; *David Farber*, Vice President, and *Richard Jacaruso*, Secretary. *Professor Lyman D. Fonda* continues to serve as faculty advisor and treasurer.

Butler University Student Branch members voted at their April meeting to sponsor a pharmacy scholarship. The award will be made on the basis of academic achievement and need.

At the **Ferris Institute Student Branch** the following were elected to office: *Timm Zimmerman*, President; *Judith Herban*, Vice President; *Jaccy Vanden Heuvel*, Secretary, and *Mary Ryan*, Treasurer. *Drs. Edward L. Platcow* and *Richard Faust* are the new faculty advisors.

The May meeting of the **George Washington University Student Branch** was devoted to the election of the following officers to serve during the year 1956–57; *Anthony F. Jackapino*, President; *Samuel T. Toggas*, Vice President; *Robert Ruckart*, Secretary, and *Sylvia Lee Zilber*, Treasurer. *Dr. Robert M. Leonard* serves as faculty advisor.

University of Illinois Student Branch officers (l. to r.): Joseph Annunziata, Treas.; Daniel Kurber, Pres.; Christopher Stankus, V.P.; Mrs. Jean Davidson, Secy.

At the April meeting of the **Medical College of Virginia Student Branch** the numerous types of poisonings encountered by the pharmacist and corrective measures he may take were discussed by *Professor Sidney Kaye* of the department of legal medicine. Professor Kaye is also toxicologist in the office of the chief medical examiner of the Commonwealth of Virginia. *Charles C. Rabe*, assistant to the A.PH.A. Secretary, was guest speaker at the May meeting of the Branch. Mr. Rabe described the objectives and services of the parent organization.

Louis J. Rossetti of the Massachusetts State Board of Pharmacy was guest speaker at the **New England College of Pharmacy Student Branch** meeting in April. He spoke on "What the State Board Expects of Pharmacy College Graduates." His very informative talk was followed by a question and answer period.

The **Oregon State College Student Branch** reports that *Hugh A. Kerwin* is their new President. Other officers include: *William C. Hamilton*, Vice President; *Phyllis A. Ruiter*, Secretary, and *Gayle A. Unfer*, Treasurer. *Dr. Daniel P. N. Tsao* is the new faculty advisor.

St. John's University Student Branch reports that its May meeting was one of the most successful of the year in student participation. The meeting consisted of 10 short talks on current problems of the profession presented by officers of the Branch. Speakers and their topics were: *Dominik Attanasio*, "How To Recruit Students from High School into Pharmacy"; *Jack Truncale*, "Are There Too Many Pharmaceutical Organizations"; *Joel Freedman*, "Physician Detailing Program"; *John LaMonte*, "Report on the Detroit Student A.PH.A. Convention"; *Ralph Hayes*, "Compulsory Membership in the A.PH.A."; *Margaret Regan*, "Hospital Pharmacy"; *John Scarpino*, "Physician-Owned Pharmacies and Dispensing Physicians"; *Frank Farrell* and *Richard Diehl*, "Responsibilities of the Pharmacist to His Profession"; *Robert Scalice*, "Unionism vs. Professionalism," and *Tom Dembski*, "Interrelationships Between Student A.PH.A. and Parent A.PH.A."

Members of the **University of Arkansas Student Branch** acted as guides and demonstrators for the numerous exhibits at the recent Little Rock "Atoms for Peace" convention sponsored by the "Atomic Energy Commission of Oak Ridge, Tenn.

David D. Stiles, Director of Market Development, *Abbott Laboratories*, was guest speaker at the March 5 meeting. His topic covered the wide spectrum of drug marketing. At the March 13 meeting *Purcell Smith* of Meyer Brothers Drug Company presented a plaque to the School of Pharmacy to promote interest in courses in management. April meetings were given over to the showing of various films of a pharmaceutical nature.

"Drugs Used in Mental Diseases" was the subject discussed by *Dr. Richard Thoms*, Associate Professor of Pharmacology at the University of Connecticut, when he spoke before the **University of Connecticut Student Branch** at its April meeting.

Dr. Thoms compared old-time treatment of mental diseases to present day methods, enumerating and elaborating on various drugs used. Officers elected at the meeting to serve during 1956–57 are *Thomas D'Amato*, President; *Stanley H. Labinger*, Vice President; *Barbara Zuius*, Corresponding Secretary; *Anne McMullen*, Recording Secretary, and *Herbert S. Willard*, Treasurer. *Professor Walter Williams* is faculty advisor.

"What the Wholesaler Can Do for the Pharmacist" was the subject discussed at the March meeting of the **University of Kansas City Student Branch.** The speaker was *Lyle Works*, President of McPike Drug Company.

Mars Wertzberger, District Sales Manager for *Abbott Laboratories*, was guest speaker at the April meeting of the Branch. He chose as his subject "The Detail Man and the Pharmacist." His talk included references to the advantages and disadvantages of serving as a medical service representative. Newly elected officers for the 1956–57 school year are: *Ernest Sjoblom*, President; *Hugh Charles*, Vice President; *Barbara Swenson*, Secretary, and *Robert Hassig*, Treasurer. *Lyle Willits* is faculty advisor.

Fred Martin, Federal Bureau of Narcotics agent, spoke on the subject "Narcotics and the Pharmacist" at the April meeting of the **University of Michigan Student Branch.** Mr. Martin emphasized check-points for maintaining proper safeguards in the handling of narcotics.

The April meeting of the **University of Mississippi Student Branch** featured a discussion on the recent A.PH.A. Convention in Detroit. Faculty member *Dr. Louis Nobles* gave a complete résumé of the highlights of the many meetings held during convention week.

Robert Sapp is the newly elected president of the **University of Oklahoma Student Branch.** Other officers are: *Robert Richardson, Jr.*, Vice President; *Shirley Dixon*, Secretary, and *Gloria Crabtree*, Secretary. *Dr. Ralph Bienfang* continues to serve as faculty advisor.

The April meeting of the **University of South Carolina Student Branch** featured an informative report on the A.PH.A. Convention in Detroit by *James Gentry*, Student Branch Delegate to the Student Section. Mr. Gentry is the newly elected Student Section Delegate to the A.PH.A. House of Delegates.

The **University of Tennessee Student Branch** was briefed on the happenings at the recent A.PH.A. Convention at its April 25 meeting by *Dean Karl Goldner* and *Dr. L. E. Bingenheimer, Jr. Paul Weiseman*, Chief Pharmacist of the Norwich Pharmacal Company, addressed the group on April 27. He spoke on "The Birth of a New Drug."

The **University of West Virginia Student Branch** has elected the following officers to serve during 1956–57: *Keith Wolford*, President; *Andrew F. Shelton*, Vice President, and *Dolores Curtis*, Secretary-Treasurer. The faculty advisor is *Dean. J. Lester Hayman.*

Newly elected officers of the **University of Wyoming Student Branch** are: *Max Shevick*, President; *Kenneth Henderson*, Vice President; *Roland Ahlbrandt*, Secretary, and *Robert Wilson*, Treasurer. *Dean David W. O'Day* is faculty advisor.

District IV Student Branches Meet at Madison

Student Branches in District IV held their annual convention at the University of Wisconsin in Madison on April 19–21. Ten of the 11 Student Branches in the District were represented at the meetings, which were presided over by *President Charles L. Miller* of Ohio State University.

One of the highlights of the 3 day meeting was a discussion on "A Uniform Internship Program" by *Dr. Louis W. Busse*, Associate Dean of the University of Wisconsin School of Pharmacy, and *O. L. Lundgren*, pharmacy proprietor of Highland Park, Ill. Moderator of the discussion was *James E. Powers*, general chairman of the convention.

Dean Arthur H. Uhl and *Charles C. Rabe*, Assistant to the A.PH.A. Secretary, spoke at the Friday luncheon meeting. Committee meetings were held during the afternoon, and Kappa Psi Fraternity was host to the students that evening at an Open House party. On Saturday, business meetings were continued and the following officers were elected: *Fred Albrecht*, University of Wisconsin, President; *Timothy Zimmerman*, Ferris Institute, Vice President; and *Stan Kulukowski*, University of Michigan, Secretary-Treasurer. The 1957 convention of District IV Student Branches will be held at the University of Michigan.

John B. Heinz, presenting the charter of the Student Branch of the A.PH.A. *to Ralph A. Wonderlin, President of the Creighton Branch. Dean William A. Jarrett observes the presentation. All 74 accredited colleges of pharmacy in the U.S. now have chartered* A.PH.A. *Student Branches.*

on the ECONOMIC SIDE

by Charles C. Rabe

Neglected Area of Public Relations

Various surveys tend to indicate that the ratio of prescriptions filled for women vs. men may run as high as two to one in many areas of the nation. Since women are generally inclined to be more sensitive to prices than men, it would seem desirable that pharmacists direct more of their public relations activities in such ways as to reach a higher percentage of women. There are a number of ways in which this might be accomplished, but one of the very best would be for the pharmacist to take a greater interest in addressing meetings of various women's clubs. Most pharmacists have concentrated very largely on carrying pharmacy's message to organizations composed of male audiences. Institutional type advertising debunking the cost-of-medication distortions should be used so that it will reach women patrons of the pharmacy. It seems in order that more public relations effort should be expended on the distaff side of the community.

Wholesalers Show Gains in 1955

The preliminary figures obtained from a survey covering the 1955 operations of 210 members of the National Wholesale Druggists' Association show that wholesalers' gross profits remained about the same as in 1954 (17.25 per cent vs. 17.23 per cent) but a marked reduction in operation expenses contributed to an increase in profits. The profit rate before taxes was 3.98 per cent of sales and 1.97 per cent after taxes. In 1954 these figures were 3.41 per cent and 1.73 per cent, respectively. N.W.D.A. wholesalers registered an over-all sales gain of 9.6 per cent over 1954 with top increases coming in the Middle Atlantic area and the smallest increases in the Missouri Valley.

Gift Drugs to Foreign Countries

Pharmacists receiving requests for medicines for gift shipment to persons in foreign countries may be guided by information provided in circulars covering such exports. A general guide in the form of a circular entitled "Sending Gift Packages to Foreign Countries—Summary of U.S. Export Regulations" may be obtained at 10¢ per copy from any field office of the Department of Commerce or from the Sales and Distribution Division, U.S. Department of Commerce, Washington 25, D.C. The sending of gifts is also subject to the regulations of the receiving country, and complete information on such regulations is published in separate circulars called "Sending Gift Packages to . . . (name of country)." These, too, may be obtained from the above-mentioned sources at 10¢ each.

To facilitate the export of gift parcels there has been created what is known as the "General License-Gift." Under the provisions of this license, gift parcels may be sent to any country except Mainland China and North Korea without making formal application to the Bureau of Foreign Commerce, as is required for many commercial exports. Persons may use this license only if and when sending gifts to their families or friends or to religious, charitable, or educational institutions. Included among the seven general regulations governing exports are two of an economic nature. The combined total domestic value of all commodities (drug and non-drug) shall not exceed $50. If the parcel includes such drugs as sulfonamides, antibiotics, etc., the total domestic retail value of these drugs shall not exceed $25. Further, the commodities must be free of cost to the person or recipient to whom they are sent. and they must not be resold.

Drug Industry Sets All-Time Highs in 1955

A study from the research department of Smith, Barney & Company, members of the New York Stock Exchange, shows that production, sales, earnings and dividends of the ethical and proprietary drug industry reached new highs in 1955. The average sales gain for thirteen companies tabulated, excluding Schering, was 14.1 per cent (including Schering 23.5 per cent) and all firms recorded advances. A combination of better sales and wider profit margins resulted in every company showing higher pre-tax income with an average gain, excluding Schering, of 29.0 per cent (including Schering 64.8 per cent). The largest gains in 1955 were made by Schering and Smith, Kline & French because of new products. Schering's sales increased from $19.4 million to $46 million, an increase of 137 per cent; Smith, Kline & French sales increased from $65.4 million to $91.7 million, an increase of 40.3 per cent. Sales of the thirteen companies in 1954 and 1955 are shown in Table I.

TABLE I—MANUFACTURERS' SALES

	Net Sales (in millions) 1955	1954
Abbott Laboratories	$ 91.7	$ 88.1
American Home	234.5	203.1
Bristol-Myers	75.7	62.4
Eli Lilly	141.3	122.3
Merck	157.9	145.5
Norwich Pharmacal	24.8	20.8
Parke-Davis	123.1	109.9
Chas. Pfizer	163.8	145.2
Schering Corporation	46.0	19.4
G. D. Searle	26.0	24.3
Smith, Kline & French	91.7	65.4
Sterling Drug	166.9	155.9
Warner-Lambert	86.3	82.2

National Prescription Survey, 1954-1955

An Analysis of Prescription Costing, Pricing, Gross Margins, and Legend Drug Fair-Trade Minimums and Margins*

by S. B. Jeffries† and I. Greenberg‡

For many years it has been stated and restated that the prescription department is the heart of the drug store. This is true. But it is not only the heart of the drug store, it is also the backbone of retail pharmacy.

To be strong professionally, however, the prescription department must be economically sound: operated efficiently as well as profitably. In this context the terms efficient and profitable mean that the professional services rendered by the pharmacist to the community must be fairly and equitably priced and still provide a sound, reasonable margin of profit.

Prescription prices must provide not only for a recovery of all "out-of-pocket" costs but a fair professional fee as well. Any costing and pricing method, schedule, technique, device, or concept (including Fair Trade) that fails to provide for a recovery of such costs plus a reasonable "fee-profit" weakens the prescription department economically and therein adversely affects it professionally.

As a practical matter the nature and character of the prescription department's gross margin and pricing structure affects not only the immediate economic and professional well-being of the individual pharmacist, it also bears heavily on one of the most potentially explosive socio-economic problems facing pharmacy: the growing sensitivity of the public to the cost of prescription medication.

Background

Reliable studies of consumer reaction to medical care costs have consistently pointed up the fact that there is, among the public, a widely held belief that prescription prices are "too high." Other studies indicate that this belief is also shared by physicians. The truth is that the public is actually purchasing health and even life itself at a phenomenally low figure, but the public does not realize it. And, to add to the confusion, thoughtless members of the profession and the industry point at each other as the culprit responsible for the difficulty instead of joining forces to make the "true" facts about the really low medication costs known across the land.

What is even more disturbing is the fact that pharmacists, though sensing the thorough unreasonableness of this publicly held belief, do more to confirm it in their daily prescription contacts than to tear it down. Completely uncer-

* Presented to the Section on Pharmaceutical Economics, A.PH.A. Detroit Convention, April 1956.

† *Project Director of the Survey*, Associate Professor, and Chairman of the Department of Pharmacy Administration, Brooklyn College of Pharmacy, New York.

‡ *Associate Project Director of the Survey*, and Assistant Professor of Pharmacy Administration, Brooklyn College of Pharmacy.

Form No. 1 of the National Prescription Survey

NATIONAL FAIR TRADE PRESCRIPTION COSTING AND PRICING STUDY

Brand Name of Specialty[1]	Quantity Dispensed (tabs, caps, ozs)	Actual Wholesale[2] Cost-of-Ingredients Pur. Code	Fair Trade[3] Minimum of Normal Wholesale Quantity	Fair Trade Price of Actual Quantity Dispensed	Actual Retail Price Charged for ℞	% Markup on Cost of Ingredients[4]	% Markup on Retail Price[5]

[1] Report only specialty or prefabricated drugs. Official drugs are not to be recorded. However, official drugs dispensed under a specialty name are to be recorded.

[2] "Actual Wholesale Cost of Ingredients" means the actual cost of the ingredients dispensed based on "normal" wholesale quantity pharmacist purchases. "Purchase Code" column denotes the quantity usually purchased: "A" 100's, "B" 250's; "C" 500's; "D" 1000's and over.

[3] Refer to manufacturers catalog or to Blue or Red Book.

[4] % Markup on Cost of Ingredients $\frac{\text{Markup in \$}}{\text{Cost-of-Ingredients}} \times 100$

[5] % Markup on Retail Price of ℞ $\frac{\text{Markup in \$}}{\text{Retail Price of ℞}} \times 100$

[6] List number and original dispensing date of each ℞ on other side of this sheet.

Annual $ Volume Classification	Average Prescription Volume per Day 1–5	6–10	11–20	21–30	31–40	41–80	81+
$30,000 to $50,000							
$50,000 to $75,000							
$75,000 to $100,000							
$100,000 to $150,000							
$150,000 to $200,000							
Over $200,000							

Fig. 1—Form No. 1 of the National Prescription Survey

tain of their ground with reference to the "economic facts of life" about prescription costing and pricing, they continue the practice of more-or-less informed guessing at prescription prices, adding thereby to an already undesirable, unreasonable, and confused price differential pattern. (See Table VIII.)

They dispense *more than half* of their prescriptions at prices below break-even, compute prices close to the bone on at least another *40 per cent*, and go slightly overboard pricewise (on the high side) on the high ingredient-cost prescriptions. All this, in the mistaken belief that they are actually making a profit. Further they imagine, or even create, sharp price competition and customer suspicion where there may, in fact, be very little or none at all. And with little or no knowledge of the actual prescription department gross margin structure, they make fiery speeches and pass resolutions—with the most unfavorable publicity—urging manufacturers, *et al.*, to establish higher (fixed) gross margin percentages on Fair Trade legend drugs in the mistaken belief that by increasing "fixed" mark-up percentages they will improve the pricing situation and at the same time make the price picture more palatable to the public. Parenthetically, it may be stated that the desire for greater "fixed" gross margin percentages is an indication that intuitively the pharmacist feels that the return on his prescription department operation is inadequate.

And to top it all, pharmacists and their spokesmen fail not only to put high-cost-medication propaganda into its proper perspective but they have gone so far as to pinpoint the issue—adding to the hysteria—by unwisely attempting to justify publicly prescription prices of a small group of high-priced "catastrophic" type prescriptions which, in the aggregate, constitute no more than four to six per cent of all prescriptions dispensed.

Long experience in working with pharmacists on many prescription department operational problems, particularly in the area of costing and pricing of prescriptions and professional services,

BROOKLYN COLLEGE OF PHARMACY
DEPARTMENT OF PHARMACY ADMINISTRATION

Confidential Prescription Survey, 1954–1955

The object of this survey is to determine some important data regarding the operation of the prescription department. Specifically we are trying to relate the gross margin per cent obtained on prescriptions, considering cost of ingredients only, to the total annual sales income as well as number of prescriptions compounded daily. These data will be handled entirely confidentially. No clue as to the identity of the pharmacy from which the data are obtained should be revealed.

I. Annual dollar volume classification. Please check one:

Under $30,000	.....
$30,000 and under $50,000	.....
$50,000 and under $75,000	.....
$75,000 and under $100,000	.....
$100,000 and under $150,000	.....
$150,000 and under $200,000	.....
Over $200,000	.....

II. Prescription volume per day:

Less than 5	.....
5 and less than 10	.....
10 and less than 20	.....
20 and less than 40	.....
40 and less than 80	.....
Over 80	.....

III. Location.....
Classification of drug store:
Professional....., Percentage $ volume contributed by ℞ department ....%
Traditional....., Fountain.....
Promotional....., Fountain.....

Number of employees
Registered pharmacists .....
Pharmacy apprentices .....
Other selling personnel .....
All others .....

IV. Specific prescription data. Starting with the month of July 1954, and for each month thereafter, through June 1955, give the information below for the first five consecutive prescriptions on the 15th of each month. These consecutive prescriptions should be new prescriptions, including narcotics, barbiturates, etc.

1. Ingredients and quantities.....
Cost of ingredients.....
Price to customer.....

2. Ingredients and quantities.....
Cost of ingredients.....
Price to customer.....

59. Ingredients and quantities.....
Cost of ingredients.....
Price to customer.....

60. Ingredients and quantities.....
Cost of ingredients.....
Price to customer.....

Summation:
Total cost of ingredients.....
Total retail price.....
Average cost of ingredients.....
Average retail price of prescriptions.....
Total gross margin.....
Total gross margin %.....

Note: Gross margin per cent is derived by applying the following formula:

$$\text{Gross Margin \%} = \frac{\text{Total Gross Margin}}{\text{Total Retail Price}}$$

Name of student.....

College of Pharmacy.....

Total number of prescriptions compounded.....

Total number of prescriptions dispensed.....

Note: List number and original dispensing date of each ℞ on other side of each sheet.

Fig. 2—Form No. 3 of the National Prescription Survey

has made it abundantly clear that the pharmacist who is armed with an understanding and working familiarity of the "economic facts of life" about his prescription department is able to deal more adequately with his immediate internal professional management problems.

With prescription prices one of the top public relations problems and apparently the core of the pharmacist's professional dollars and cents problem, the authors *were determined to search out and establish those facts and figures best calculated to throw light on the current prescription costing, pricing, gross margin, and profit practices and patterns.* In short, it was to help provide the pharmacist with as comprehensive a picture as possible of the "economic facts of life" about his professional operation that the Department of Pharmacy Administration of The Brooklyn College of Pharmacy was prompted to undertake this National Prescription Survey.

The Survey was designed to elicit what effect the traditional gross margin percentage pattern had on prescription prices and pricing practices; what influence, if any, legend drug Fair Trade margins and minimum Fair Trade prices had on prescription prices, the general price level, and pricing practices. Were drug stores in Fair Trade areas better or worse off, so far as prescription prices and fee-profits were concerned, than those operating in non-Fair Trade regions? How were pharmacists pricing their prescriptions and professional services? Were prices actually too high; were they high at all? What percentage of prescription volume was being dispensed at a loss, at break-even, or at a profit? And, finally, what was this profit factor, percentage-wise and dollar-wise?

Sampling Method

Prescription costing, pricing, and operational data were obtained from 57,660 actual prescriptions collected from more than 400 representative drug stores covering all sections of the United States. The data were collected with the cooperation of pharmacy administration teachers and senior students from 26 colleges of pharmacy and the officers and executive secretaries of some 37 local, county, and state pharmaceutical associations. (See Figs. 1 and 2.)

Basis of Evaluation

The prevailing practice in pricing prescriptions is the application of a fixed mark-up per cent added to the cost of ingredients. This has become more widespread and common during the last several years, especially in view of the fact

that the number of prefabricated prescriptions has steadily increased until they now represent almost 90% of all prescriptions dispensed. It is in line with this that pharmacists have been agitating for larger gross margin percentages on Fair Trade legend drugs. This, as stated above, is due to an intuitive feeling that returns in the prescription department are inadequate. Nevertheless, in applying the fixed mark-up per cent to the cost of ingredients in pricing prescriptions, the pharmacist is making a tacit assumption that he is recovering his costs and making some profit besides.

Such practices and assumptions are erroneous, unrealistic, and professionally dangerous. When the pharmacist prices a prescription by applying a fixed mark-up per cent, he is using the same techniques in pricing as he does for over-the-counter merchandise. He assumes, therefore, that his cost of operation and investment structure in the prescription department is identical with that of the front of the store. Nothing, of course, can be further from the truth. It is because of this that the pharmacist deludes himself that he is making a profit on prescriptions.

Labor costs, overhead, investment, and incidental expenses are completely different in the prescription department than they are in the front of the store. In fact, few pharmacists have any knowledge at all of the differences of cost of operation. It is out of this lack of knowledge that error and false assumptions creep into the pricing of prescriptions. Further, in treating the prescription department in the same way as the front of the store there is the inherent danger of the prescription department degenerating to the level of the front of the store with the consequent loss of professional status and dignity, the *sine qua non* of the pharmacy.

Questions were raised above with respect to prescription price levels, break-even points, etc. On what basis can these questions be answered? Certainly not on actual prescription prices, since these are highly subjective and variable. The only objective basis upon which prescription prices can be evaluated as to adequacy and fairness *is a determination of the extent to which the price to the customer represents the recovery of all costs plus a profit.*

The Jeffries Prescription Costing Method—For the purpose of making the above determination, the "Jeffries Prescription Costing Method" was used. As a result of long study and use, the method was found to be realistic and sound, both from an economic and accounting point of view.

This method is based on the principle that the dispensing of a prescription is different both in kind and degree from an over-the-counter sale. It considers each prescription as a unique entity, which must be treated individually. This method recognizes four cost elements that go into every prescription. These are: *cost of ingredients, labor, container,* and *overhead.* The first three are variables and the last is treated as a constant, depending upon the particular pharmacy involved.

These four costing elements were applied to the 57,660 prescriptions in the study to determine whether prices charged the customer for the prescription were below, at, or above the break-even figure, and to determine whether the gross margin percentages applied by the pharmacist were adequate to recover costs and allow for some profit (professional fee).

Through application of the "break-even-point" concept of prescription costing, *i.e., that cost-point at which the price charged for a prescription is the equivalent of the sum of the out-of-pocket costs applicable to that prescription*—the cost of ingredients, the cost of the container, the cost of labor, and the overhead charge—it was possible to determine whether pharmacists were earning or losing money on their prescription dispensing operations. On the basis of this and other recent operational studies it was determined that the average *operational* cost, other than ingredients, incurred in the dispensing of a prescription is 91¢. Thus the break-even cost of each prescription may be determined by adding a 91¢ cost factor to the cost of ingredients.

The tables, major findings, and conclusions detailed below should help clarify and solve some of the questions raised above.

TABLE I—NATIONAL PRESCRIPTION SUMMARY
Data on 57,660 Prescriptions

Prefabricated prescriptions[a]	89.0%
Compounded prescriptions[b]	11.0%
Average weighted price of all prescriptions	$2.36
Average weighted gross margin for all prescriptions	48.9%
Average weighted gross margin for prefabricated prescriptions	50.46%
Average weighted cost-of-ingredients for all prescriptions	$1.22
Average weighted break-even cost, all prescriptions[c]	$2.13
Average professional fee per prescription (all)[d]	$0.23
Average unweighted price of all prescriptions	$2.49

[a] A prefabricated or uncompounded prescription is one that requires no mixing by dispensing pharmacist, *i.e.*, requiring merely a transfer of a medicament from one container to another or dispensing in the original container.

[b] A compounded prescription is one in which two or more ingredients are mixed by the dispensing pharmacist.

[c] Weighted cost-of-ingredients plus 10¢ for container, 56¢ for labor applicable (8 minutes at 7¢ per minute), 25¢ overhead cost/prescription.

[d] Professional fee/net-profit on all prescriptions across-the-board.

TABLE II—PRESCRIPTION COSTING AND PRICING DATA

Comparison in Selected Fair-Trade and Non-Fair-Trade Regions[a]

Categories of Data	Selected F-T Regions	Selected Non-F-T Regions
Prefabricated prescriptions	89.7%	88.9%
Compounded prescriptions	10.3%	11.1%
Average weighted price of all prescriptions	$2.37	$2.34
Average weighted gross margin for all prescriptions	51.6%	50.9%
Average weighted gross margin for prefabricated prescriptions	51.7%	51.4%
Average weighted cost-of-ingredients for all prescriptions	$1.19	$1.17
Average weighted break-even cost, all prescriptions	$2.11	$2.07
Average professiona fee per prescription (all)	$0.26	$0.27
Average unweighted price for all prescriptions	$2.52	$2.47

[a] Selected Fair-Trade regions: New York State, New Jersey, Indiana, Virginia, California, Oklahoma, Massachusetts; selected non-Fair-Trade regions: Texas, Missouri, Vermont, Washington, D.C. See footnotes *a–c*, Table I.

TABLE III—PRESCRIPTION COSTING AND PRICING DATA

Comparison of National Data with New York City (Metropolitan, N.Y.[a]) Data

Categories of Data	National	N.Y.C.[a]
Prefabricated prescriptions	89.0%	87.1%
Compounded prescriptions	11.0%	12.9%
Average weighted price of all prescriptions	$2.36	$2.21
Average weighted gross margin for all prescriptions	48.9%	50.7%
Average weighted gross margin for prefabricated prescriptions	50.46%	51.3%
Average weighted cost-of-ingredients for all prescriptions	$1.22	$1.12
Average weighted break-even cost, all prescriptions	$2.13	$2.03
Average professional fee per prescription (all)	$0.23	$0.18
Average unweighted price of all prescriptions	$2.49	$2.31

[a] Brooklyn, Bronx, Manhattan, Queens, Staten Island, Nassau-Suffolk Counties (Long Island), and lower Westchester County (N.Y.).

Major Findings and Conclusions

The following conclusions are based on the data obtained from an analysis of a representative sample totaling 400 pharmacies.

1. The national average prescription price is $2.36. The median prescription price is $1.41, which means that one-half of the prescriptions filled were dispensed at less than $1.41. The average prescription break-even cost is $2.13, and the average "professional fee" earned by the pharmacist on each prescription is 23¢. Eighty-nine per cent of the prescriptions are prefabricated, while 11% require compounding. (See Tables I, II, and III.)

2. More than half of the prescriptions (55.1%) are dispensed at a substantial dollar and cents loss, *i.e.*, below the actual break-even cost of prescriptions. The weighted average price in this group is $1.23, with a gross margin of 54.1%. Both price and margin are clearly inadequate. (See Table IX.) An over-all margin increase of at least 13% is needed in this group to provide a reasonable professional fee over and above break-even cost.[1]

(Continued on next page)

TABLE IV—BASIC DATA ON ALL PRESCRIPTIONS

By 50¢ Price Intervals

Price Range	% of Total Prescriptions	Cumulative Per Cent	Gross Margin %	Gross Margin $	Cost-of-Ingredients (Weighted)	Break-Even Cost[a]
50–1.00	15.1	...	58.6	0.43	$0.32	$1.23[b]
1.01–1.50	21.9	37.0	57.3	0.72	0.53	1.44[b]
1.51–2.00	18.1	55.1	51.1	0.90	0.85	1.76[b]
2.01–2.50	12.8	67.9	50.5	1.14	1.11	2.02
2.51–3.00	9.5	77.4	49.7	1.37	1.38	2.29
3.01–3.50	4.7	82.1	48.2	1.56	1.69	2.60
3.51–4.00	5.7	87.8	42.3	1.58	2.17	3.08
4.01–4.50	3.6	91.5	46.1	1.96	2.29	3.20
4.51–5.00	2.5	94.0	42.2	2.00	2.75	3.60
5.01–5.50	1.3	95.3	38.5	2.02	2.73	3.64
5.51–6.00	1.1	96.4	43.6	2.51	2.74	3.65
6.01–6.50	0.5	96.9	44.5	2.78	3.47	4.38
6.51–7.00	0.5	97.4	38.2	2.57	4.18	5.09
7.01–7.50	0.8	98.2	38.9	2.83	4.42	5.33
7.51–8.00	0.6	98.8	39.1	3.03	4.72	5.63
8.01–8.50	0.3	99.1	40.2	3.31	4.94	5.85
8.51–9.00	0.2	99.3	41.0	3.59	5.16	6.07
9.01–9.50	0.2	99.5	29.7	2.74	6.51	7.42
9.51–10.00	0.06	99.56	39.6	3.86	5.89	6.80
10.01 and Up[c]	0.44	100.0	37.8	4.34	7.09	8.00

[a] Break-even cost of prescription: cost-of-ingredient plus cost of container (10¢), cost-of-labor applicable (56¢) and overhead-cost per prescription (25¢).
[b] Prescriptions in these price ranges dispensed below break-even cost.
[c] Median prescription price in this price interval: $11.43.

[1] *Note:* It might be added that the depressed prices in this group of prescriptions offer the pharmacist the best opportunity for an upward adjustment of his pricing level. As a matter of fact, field tests carried on in 103 selected drug stores disclosed that increases of 25¢ to 30¢ per original prescription in this broad low-ingredient cost group of prescriptions met with little or no opposition or criticism from consumers.

Survey

• • • • • • • • • • • • *from preceding page*

TABLE V—AVERAGE PRICES AND PRICE RANGE

Weighted Average Prescription Price in Each Cumulative Group and Prescription Price Range for Each Cumulative Group

Cumulative Distribution, % of all Prescriptions	Weighted Average Price in Cumulative Group	Price Range for Cumulative Group
37.0	$1.05	$0.50–1.50
55.1	1.23	0.50–2.00
67.9	1.45	0.50–2.50
77.4	1.59	0.50–3.00
83.1	1.69	0.50–3.50
87.8	1.84	0.50–4.00
94.0	2.01	0.50–5.00
(6.0)	(7.91)	(5.01 and up)
All prescriptions—100	2.36	(0.50 and up)

With 55.1% of prescriptions dispensed at a loss and 22.3% more underpriced, *i.e.*, failing to provide a reasonable and equitable professional fee-profit margin over and above the break-even cost, and with an average prescription price of $2.36, and a median prescription price of $1.41, *how valid are the "high" medication cost stories we hear and read so much about?* (See Tables IV, V, and X.)

3. With actual gross margins varying from 58.6% in the lowest prescription price interval, and with the average prescription priced to yield a gross margin of 48.9% (51.6% in selected Fair Trade regions), there appears on its face, at least, to be no serious over-all gross margin shortage. Upon closer analysis, however, it is evident that prescriptions must be priced to yield a 55.4% to 55.7% gross margin if the losses in the low- and middle-cost-of-ingredients prescriptions are to be eliminated or minimized. (See Tables IV, VI, and X.)

4. Traditional gross margin pricing concepts are ignored, for the most part, in the pricing of the low-ingredient-cost prescriptions. Where they do influence pricing it is generally in the direction of depressing prices well below break-even cost. The application of the gross margin concept appears to be more significant with reference to the pricing of the more expensive ingredient prescriptions, since at the higher price levels "dollars" margins at 33% or 40% are considered more respectable since they allow for greater competitive maneuvering and are more in line with what the pharmacist "thinks he is entitled to" over and above the invoice cost of the drug.

5. Fair Trade gross margins are, for the most part, lower than actual margins taken. Even when Fair-Traded at 40%, actual margins applied were larger in all except six of the higher-priced intervals. (See Table VII.)

6. On products Fair-Traded to yield 33.3% margin, the Fair Trade minimum falls short of the actual break-even cost on all prescriptions Fair-Traded at less than $2.37; at 40%, the Fair Trade minimum falls short of the break-even cost on all prescriptions Fair-Traded at $2.27 or less. Of course, these "critical point" Fair Trade prescription prices will vary as the break-even cost factor of 91¢ varies.

It is important to note that neither the 33.3% margin at the $2.37 Fair Trade price nor the 40% margin at the $2.27 Fair Trade price provides for a professional-fee profit. To provide enough margin at 33.3% to cover the break-even cost factor of 91¢ plus a professional-fee profit of 50¢ (average fee across-the-board), for a total of $1.41 (curiously the same as the median prescription price), the critical-point Fair Trade minimum price is $4.23; at 40% margin, the critical-point Fair Trade minimum price is $3.53. *Obviously, products Fair-Traded at less than these prices would cut into the 50¢ professional-fee profit.* And if, for any reason, minimum Fair Trade prices were to become prescription pricing standards, the loss to the pharmacist in terms of dollar margin might easily become catastrophic. (See Table IX.)

7. The pattern of use and application of the Fair Trade "fixed" percentage mark-up concept in determining the prescription price follows pretty much that of the traditional gross-margin concept mentioned earlier. It is ignored for the most part as a price determinant in the low cost-of-ingredient ranges because the dollars and cents margins are very low; when it does influence price in these ranges, it tends to depress them.

In the higher price ranges, $5.01 and above, where the cost-of-ingredients is such that Fair Trade dollar margins are considerably more substantial, the Fair Trade concept becomes a more important factor in price determination. Pharmacists will—competition, temperament, and consumer reception permitting—strike out for the full Fair Trade margin. To this extent Fair Trade appears to have brought about at least a semblance of price stability. Unhappily, though, this is not the case with the remaining 90% to 95% of prescriptions dispensed. Since actual prices and margins in this very small group are frequently higher than Fair Trade minimums and margins, we cannot look to the Fair Trade concept to eliminate, reduce, or even minimize competition or stabilize prices.

8. Professional and trade pressure on manufacturers to increase existing Fair Trade margins to

TABLE VI—AVERAGE PRICES, MARGIN, AND INGREDIENT COST

Weighted Cumulative Average Prescription Prices, Gross Margin Percentages and Cost-of-Ingredients in Each Cumulative Group

Weighted Average Price	% of T.P.[a]	Av. G.M. %[b]	Weighted Average Cost-of-Ingredients
$1.23 (0.50–2.00)	55.1	54.1	$0.56 (0.20–0.85)
1.45 (0.50–2.50)	67.9	53.4	0.68 (0.20–1.11)
1.59 (0.50–3.00)	77.4	50.8	0.78 (0.20–1.38)
1.69 (0.50–3.50)	82.1	52.7	0.80 (0.20–1.56)
1.84 (0.50–4.00)	87.8	52.0	0.88 (0.20–2.17)
2.01 (0.50–5.00)	94.0	51.5	0.98 (0.20–2.75)
2.36 (0.50 and up)	100.0	48.7	1.22 (0.20 and up)
(7.91) (5.01 and up)[c]	(6.0)	(39.2)	(4.79) (2.76 and up)

[a] T.P. = total prescriptions.
[b] Av. G.M. = average gross margin.
[c] This is the weighted cumulative average price for all prescriptions priced $5.01 and up. This cumulative group is 6.0 per cent of the total number of prescriptions included in the study (57,660 prescriptions).

(Please turn to page 390)

TABLE VII—ACTUAL PRICES AND FAIR-TRADE MINIMUMS

Comparison at 33 and 40 Per Cent Based on Weighted (Actual) Cost of Ingredients Figures in Each Price Range, Including Comparisons of Actual and Fair Trade Gross Margins

Weighted Cost-of-Ingredients	Minimum	Comparison of Actual and F.T.C. Margins	Comparison of Actual

TABLE VII—ACTUAL PRICES AND FAIR-TRADE MINIMUMS

Comparison at 33 and 40 Per Cent Based on Weighted (Actual) Cost of Ingredients Figures in Each Price Range, Including Comparisons of Actual and Fair Trade Gross Margins

Price Range	% of Total Prescriptions	Cumulative Percentages	Gross Margin %	Gross Margin $	Weighted Cost-of-Ingredients in Each Range	Minimum F-T Price at 33%	F-T Gross Margin	Comparison of Actual and F-T G/Margins[a] F-T Margin Deficit	Comparison of Actual and F-T G/Margins[a] F-T Margin Advantage	Minimum F-T Price at 40%	F-T Gross Margin	Comparison of Actual and F-T G/Margins[a] F-T Margin Deficit	Comparison of Actual and F-T G/Margins[a] F-T Margin Advantage
$0.50- 1.00	15.1	...	58.6	0.43	$0.32	$ 0.48	$0.16	$0.27	...	$ 0.57	$0.25	$0.18	...
1.01- 1.50	21.9	37.0	57.3	0.72	0.53	0.80	0.27	0.45	...	0.89	0.36	0.36	...
1.51- 2.00	18.1	55.1	51.1	0.90	0.85	1.20	0.35	0.55	...	1.34	0.49	0.41	...
2.01- 2.50	12.8	67.9	50.5	1.14	1.11	1.67	0.56	0.58	...	1.86	0.75	0.39	...
2.51- 3.00	9.5	77.4	49.7	1.37	1.38	2.07	0.69	0.68	...	2.31	0.93	0.44	...
3.01- 3.50	4.7	82.1	48.2	1.56	1.69	2.84	1.15	0.41	...	2.82	1.13	0.43	...
3.51- 4.00	5.7	87.8	42.3	1.58	2.17	3.26	1.09	0.49	...	3.62	1.45	0.13	...
4.01- 4.50	3.6	91.5	46.1	1.96	2.29	3.44	1.15	0.81	...	3.44	1.15	0.81	...
4.51- 5.00	2.5	94.0	42.2	2.00	2.75	4.12	1.37	0.63	...	4.59	1.84	0.16	...
5.01- 5.50	1.3	95.3	38.5	2.02	2.73	4.10	1.37	1.15	...	4.56	1.83	0.19	...
5.51- 6.00	1.1	96.4	43.6	2.51	2.74	4.11	1.37	1.64	...	4.57	1.83	0.68	...
6.01- 6.50	0.5	96.9	44.5	2.78	3.47	5.20	1.73	1.05	...	5.79	2.32	0.46	...
6.51- 7.00	0.5	97.4	38.2	2.57	4.18	6.19	2.01	0.56	...	6.97	2.79	...	$0.22
7.01- 7.50	0.8	98.2	38.9	2.83	4.42	6.63	2.21	0.62	...	7.37	2.95	...	0.12
7.51- 8.00	0.6	98.8	39.1	3.03	4.72	7.08	2.36	0.67	...	7.88	3.16	...	0.13
8.01- 8.50	0.3	99.1	40.2	3.31	4.94	7.41	2.47	0.84	...	8.24	3.30	0.01	...
8.51- 9.00	0.2	99.3	41.0	3.59	5.16	7.74	2.58	1.01	...	8.61	3.45	0.14	...
9.01- 9.50	0.2	99.5	29.7	2.74	6.51	9.76	3.25	...	$0.51	10.92	4.41	...	1.67
9.51-10.00	0.06	99.56	39.6	3.86	5.89	8.84	2.95	0.91	...	9.82	3.93	...	0.07
10.01-up	0.44	100.0	37.8	4.34	7.09	10.64	3.55	0.79	...	11.83	4.74	...	0.40

[a] + and − differences between actual and Fair-Trade gross margins in each prescription price interval. These figures also represent the difference between the minimum Fair-Trade price and the median prescription price in each prescription price range or interval.

TABLE VIII—COMPARISONS OF PRESCRIPTION PRICE DISTRIBUTION DATA

Prescription Price Range	Natl. Prescription Price Distribution Study % by Price Class	Natl. Prescription Price Distribution Study Cumulative %	Mass. Coll. Pharm. Prescription Study, 1954 % by Price Class	Mass. Coll. Pharm. Prescription Study, 1954 Cumulative %	Price Dist. in F-T Areas,[a] %	Price Dist. in Non-F-T Areas,[a] %	Price Dist. N.Y. State, % by Price Range[a]	Price Dist. N.Y.C., % by Price Range[a]	Price Range N.J. Bd. of Pharmacy, 1954 Report	Price Distribution N.J. Bd. of Pharmacy, 1954 % by Price Class	Price Distribution N.J. Bd. of Pharmacy, 1954 Cumulative %
$0.01- 1.00	15.1	...	19.43	...	18.1	16.4	16.3	19.8	$0.50-0.99	6.96	...
1.01- 1.50	21.9	37.0	23.97	43.40	21.3	22.9	22.5 (38.8)	23.1 (40.9)	1.00-1.49	20.29	27.25
1.51- 2.00	18.1	55.1	17.62	61.02	17.8	16.7	17.8	15.3	1.50-1.99	25.58	52.83
2.01- 2.50	12.8	67.9	11.26	72.28	11.4	13.3	11.8	12.9	2.00-2.49	12.17	65.00
2.51- 3.00	9.5	77.4	8.63	80.91	9.7	8.3	8.7	7.1	2.50-2.99	9.95	74.95
3.01- 3.50	4.7	82.1	4.25	85.16	4.1	4.8	5.1	4.9	3.00-3.49	4.87	79.82
3.51- 4.00	5.7	87.8	3.90	89.06	4.9	4.1	4.8	4.1	3.50-3.99	6.51	86.33
4.01- 4.50	3.6	91.5	3.06	92.12	3.3	3.7	3.1	3.8	4.00-4.99	6.73	93.06
4.51- 5.00	2.5	94.0	2.60	94.72	2.8 (93.4)[b]	2.9 (93.1)	2.6 (92.7)	2.8 (93.3)	5.00-up	8.95	100.0
5.01- 5.50	1.3	95.3	...	...	1.4	1.7	1.9 (94.6)	1.4 (94.7)			
5.51- 6.00	1.1	96.4	2.72	97.44	1.2	1.2 (96.0)	0.9 (95.5)	1.7 (96.4)			
6.01- 6.50	0.5	96.9	...	...	0.4	0.7	0.6	0.7	Detailed Data on $5.00 and Up		
6.51- 7.00	0.5	97.4	0.87	98.31	0.7	0.3 (97.0)	0.7	0.4	Prescriptions from N.J. Bd. of Pharm. Report		
7.01- 7.50	0.8	98.2	...	...	0.7	0.5	0.9	0.6	(5.00- 7.49	4.76)	...
7.51- 8.00	0.6	98.8	0.81	99.12	0.5	0.4 (97.9)	0.4	0.3	67.50- 9.99	1.62	6.38)
8.01- 8.50	0.3	99.1	...	...	0.3	0.2	0.3	0.4	(10.00-12.49	2.26	8.64)
8.51- 9.00	0.2	99.3	0.34	99.46	0.2	0.4 (98.5)	0.4	0.5	(12.50-14.99	0.09	8.73)
9.01- 9.50	0.2	99.5	...	...	0.3	0.2	0.3	0.2	(15.00-19.99	0.07	8.80)
9.51-10.00	0.06	99.56	0.22	99.68	0.2	0.5 (99.2)	0.2	0.1	(20.00-29.99	0.07	8.87)
10.01-up	0.44	100.00	0.36	100.00	0.7 (100.0)	0.8 (100.0)	0.7	0.4	(30.00 and up	0.08	8.95)

[a] See footnotes in Table II for information on states included in Fair-Trade and non-Fair-Trade areas.
[b] Figures in parentheses represent cumulative percentages (of total number of prescriptions) as of designated prescription price interval for comparison with national cumulative percentage data (third column).

Survey . . . . . *from preceding page*

45% and even 55% *across the board* is, for all practical purposes, pointless, unwarranted and, *even more important, dangerous.* Since pharmacists are already taking more gross margin than is provided for by Fair Trade, and since *any fixed gross margin mark-up will never meet the varying cost and gross margin needs in each of the price intervals*—needs, for example, of up to 79.5% in the 50¢ to $1.00 price interval—and since the application of a *fixed* mark-up per cent would most likely: (a) fail to raise prices sufficiently in the greatest number of prescriptions, and (b) raise to asocial and competitively destructive (for manufacturers as well) levels the already high-priced prescriptions, what end could possibly be served by such tactics?

The fact of the matter is that if pharmacists are not pricing their prescriptions realistically to cover cost of ingredients, cost of container, cost of labor, and overhead, plus a reasonable professional-fee profit, then the application of a fixed gross margin mark-up concept, whether it be Fair Trade or any other variety, is clearly not the answer. There can be *no* substitute for a prescription costing and pricing system that is specifically designed to enable the pharmacist to:

(a) Calculate his costs per prescription with reasonable accuracy.

(b) Recover his actual out-of-pocket costs *plus* a reasonable and equitable professional-fee profit *over* and *above* the break-even-cost point (out-of-pocket costs including cost-of-ingredients) of each prescription he dispenses.

(c) Meet his professional, interprofessional and public relations responsibilities and needs as well.

9. How sound can the pharmacist's professional economic position be if his pricing pattern is such that he finds himself looking to 6% of his prescriptions to produce 20% of his professional dollar volume and practically all of the profits in the prescription department, while he goes on merrily dispensing more than half of his prescriptions at prices below break-even? And, to compound this unit-volume dollar-volume disparity problem, we find that it is the 6% high-priced group of prescriptions that is, by its very nature, the most vulnerable to socio-economic pressures and sanctions.

Obviously, with an average price of $7.91 in this high price group—3.9 times the $2.01 average price of all other prescriptions—a significant disparity between number dispensed and dollar volume contributed by the group is bound to exist. It is also obvious that while the disparity in the high-price group does not lend itself easily to adjustment, because of the high incidence of new and catastrophic type prescriptions involved, this is certainly not the case with the substantially larger group of lower-priced prescriptions. (See Tables V and XI.)

Since public criticism as well as social and economic pressure is most intense on the few higher-priced prescriptions and almost nonexistent in the lower-priced prescriptions, it would seem to follow that by *holding down* (and sometimes even reducing) prices on the fewer high-priced prescriptions to a more reasonable and realistic level while at the same time *increasing* to a more profitable level the prices on the substantially larger number of low-cost-ingredient prescriptions pharmacy would achieve two things:

(a) Reduce anti-pharmacy criticisms and social pressure.

(b) Improve considerably its professional economic position.

For example, if in a pharmacy dispensing 10,000 prescriptions per year, prices of the upper 10% of prescriptions beginning with a price of

TABLE IX—FAIR-TRADE MINIMUM AND BREAK-EVEN COST

Comparison Figures in Each Price Range

Price Range	Weighted Cost-of-Ingredients in Each Range	Break-Even Cost of Prescriptions in Each Range	Minimum F-T Price at 33% G.M.	Difference Between Minimum F-T Price and Break-Even Cost[a] Amt. F-T Exceeds Break-Even Cost	Amt. F-T Below Break-Even Cost	Minimum F-T Price at 40% G.M.	Difference Between Minimum F-T Price and Break-Even Cost[a] Amt. F-T Exceeds Break-Even Cost	Amt. F-T Below Break-Even Cost
$0.50– 1.00	$0.32	$1.23	$ 0.48	...	$0.75	$ 0.57	...	$0.66
1.01– 1.50	0.53	1.44	0.80	...	0.64	0.89	...	0.55
1.51– 2.00	0.85	1.76	1.20	...	0.51	1.34	...	0.37
2.01– 2.50	1.11	2.02	1.67	...	0.35	1.86	...	0.16
2.51– 3.00	1.38	2.29	2.07	...	0.22	2.31	$0.02	...
3.01– 3.50	1.69	2.60	2.84	$0.24	...	2.80	0.22	...
3.51– 4.00	2.17	3.08	3.26	0.18	...	3.62	0.54	...
4.01– 4.50	2.29	3.20	3.44	0.24	...	3.44	0.22	...
4.51– 5.00	2.75	3.60	4.12	0.52	...	4.59	0.99	...
5.01– 5.50	2.73	3.64	4.10	0.46	...	4.56	0.92	...
5.51– 6.00	2.74	3.65	4.11	0.46	...	4.51	0.92	...
6.01– 6.50	3.47	4.38	5.20	0.82	...	5.79	1.41	...
6.51– 7.00	4.18	5.09	6.19	1.10	...	6.97	1.88	...
7.01– 7.50	4.42	5.33	6.63	1.30	...	7.37	1.99	...
7.51– 8.00	4.72	5.63	7.08	1.45	...	7.88	2.25	...
8.01– 8.50	4.94	5.85	7.41	1.34	...	8.24	2.39	...
8.51– 9.00	5.16	6.07	7.74	1.67	...	8.61	2.54	...
9.01– 9.50	6.51	7.42	9.76	2.34	...	10.92	3.50	...
9.51–10.00	5.89	6.80	8.84	2.04	...	9.82	3.02	...
10.01–up	7.09	8.00	10.64	2.64	...	11.83	3.83	...

[a] These amounts represent the difference between the break-even cost of prescription in each price interval and the Fair Trade price at 33 and 40 per cent based on the weighted cost-of-ingredients figures in each price interval. See footnote, Table II.

TABLE X—MARKUP REQUIRED

Markup in Dollars and Per Cent Required to: (1) Break-Even, (2) Provide a 20 Per Cent (on Retail Prescription Price) Professional Fee on Prescriptions in Each Prescription Price Interval wherein Prescriptions are Now Dispensed Below Break-Even Cost

Price Intervals	% of T.P.[b]	Cumulative % T.P.[b]	Actual Gross Margin %	Actual Gross Margin $	Weighted Cost-of-Ingred.	Break-Even Cost of Prescriptions[a]	Retail Markup Needed[c] %	Adjusted Retail Price[d]	Markup Needed[e] %	Difference Between A.G.M. and G.M. Needed[f] %
$0.50–1.00	15.1	...	58.6	0.43	$0.32	$1.23 (−48¢)	74.0	$1.54	79.5	20.9
1.01–1.50	21.9	37.0	57.3	0.72	0.53	1.44 (−19¢)	63.2	1.82	71.1	13.8
1.51–2.00	18.1	55.1	51.1	0.90	0.85	1.76 (−1¢)	51.9	2.20	61.3	10.2

[a] Amount in parentheses represents the difference between the actual break-even cost and the median price in each prescription price interval designated.
[b] T.P. = total prescriptions.
[c] Retail markup needed to provide break-even margin.
[d] Adjusted retail price based on break-even cost plus professional fee.
[e] Markup needed to provide 20% professional fee (minimum).
[f] Difference between actual gross margin per cent and gross margin per cent required to provide a 20% professional fee (minimum fee).

$4.25, having a cost of ingredients of $2.29 and a gross margin of $1.96, *i.e.*, $4.01-and-up price intervals, were reduced by 42¢ to $1.15, revenue from this very small group of high-profit prescriptions would be reduced from $700 to $800 per annum. *If at the same time, however, prices on the other 90% of prescriptions dispensed were increased by only 25¢ each, the resultant revenue increase would be $2,250, for a net gain of $1,450 to $1,550.*

In practical, everyday terms, where the cost of ingredients is $2.29 or less, add 25¢ to the price normally charged for that prescription. Where the cost of ingredients is $2.30 or more, reduce the price you normally would charge by roughly 10%. This would average out to a reduction of roughly 70¢ to 80¢ per prescription for the 10% high-priced segment of your prescription volume.

This procedure is *not* recommended as a pricing method, nor does it apply where prescription prices on the upper 10% are *not* "out-of-line" by local standards. It is only given as an illustration. Precisely the same results would be accomplished by the "Jeffries Prescription Costing and Pricing Method," *viz.*, the low-priced prescriptions would be raised (and there are so many more of them), and the high-priced prescriptions would be somewhat reduced, with a substantial over-all net gain along with the additional advantage of always knowing what the break-even cost of each prescription is.

The use of this costing method and the suggestion made above offers the pharmacist the most potent tool for achieving those price adjustments which are best calculated to:

(a) Put the prescription department on a paying basis.

(b) Combat to a degree at least some of the adverse socio-economic pressures and sanctions pharmacy is confronted with today.

Pharmacy should face the fact that it must strive to achieve professional economic security through more realistic and better planned costing

TABLE XI—CUMULATIVE MAJOR GROUPINGS

Number of Units, Dollar Volume, and Percentage of Total Dollar Volume

Cumulative %, Groups and Price Range	C.P.U. Represented[b] (Millions)	C.D.V. Represented[c] (Millions)	Cumulative % T.P.D.V. Represented[d]
55.1 ($0.50 to 2.00)	221.4	278.2	28.6
67.9 (0.50 to 2.50)	277.2	402.1	41.3
77.4 (0.50 to 3.00)	316.5	505.3	52.1
82.1 (0.50 to 3.50)	336.2	568.5	58.4
94.0 (0.50 to 5.00)	384.5	776.0	79.7
(6.0 (5.00 and up)[a]	24.4[a]	197.5[a]	20.3)[a]

[a] The last item is not part of the cumulative figure but represents the actual per cent of that class.
[b] Cumulative prescription units represented in each group (in millions).
[c] Cumulative dollar volume represented in each group (in millions).
[d] Cumulative percentage of total prescription dollar volume represented by each group.

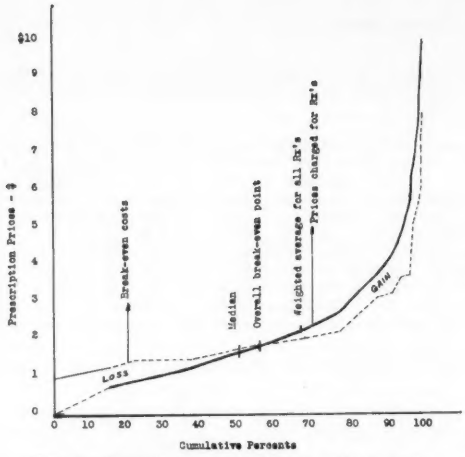

Fig. 3: Cumulative prescription prices and break-even costs plotted to show over-all break-even price; also indicated are the median and weighted average prescription price (adapted from Table IV).

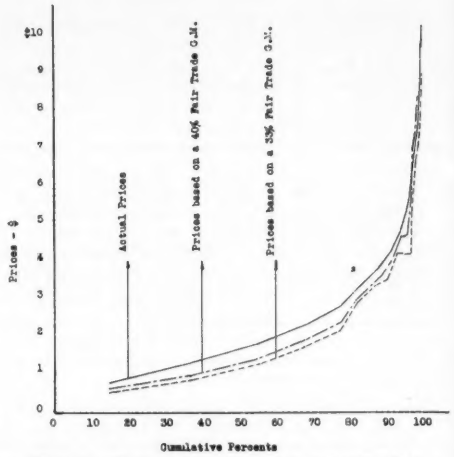

Fig. 4: Comparison between actual prices and Fair-Trade prices based on 33 and 40 per cent gross margins. Fair-Trade prices computed from the average cost of ingredients per price interval (adapted from Table VII).

and pricing of prescriptions *while* living with, and accommodating to a modicum of, public criticism about high prescription prices. The truth is that prices of new drugs and catastrophic type prescriptions simply *cannot* be reduced to a level that will escape public criticism altogether.

The best pharmacy can hope for is that the sharp edge of public criticism will be dulled (so it does not hurt so much) through:

(a) Extensive consumer education concerning the actual facts about the "low" cost of prescription medication in juxtaposition to the "high value and effectiveness" of modern prescription medication.

(b) Better understanding of the economics of prescription costing and pricing, including the elimination of those pricing characteristics that pinpoint the problem in the customer's mind—for example, the wide, unreasonable, and erratic price differentials on identical prescriptions within the store itself and from store to store in a community, and unreasonably high prices on "catastrophic" type prescriptions, *i.e.*, those scripts which hit the family when it is already confronted with medical care bills that are almost too much to bear.

In other words, while public criticism will not be altogether stilled by reducing or holding prices on the high-ingredient cost prescriptions down to a reasonable level, it will help take the edge off that criticism. *However, pharmacy should not be so carried away with fear of criticism that it shies away from basic adjustments of its prescription costing and pricing structure needed to meet its professional, economic, and social needs adequately.* More specifically, the upward price adjustment of 25¢ each on nine out of ten prescriptions dispensed would, in terms of medication costs to the public, represent an increase of 41¢ to 45¢ per person, per annum, leaving unchanged the fact that *"the prescription is, by any standard, the biggest health bargain the public has ever enjoyed."*[2]

10. Pharmacy is currently subsidizing the public's cost-of-medication bill, on more than half the prescriptions dispensed for a total of $47,270,000. No other health profession has ever done this, nor are they ever called upon to provide such a subsidy. This does not, it should be noted, include the tremendous prescription subsidy that is gladly borne by retail pharmacy with reference to the Veterans Home Town Prescription Program and city, county, and state welfare patients as a public service.

• • •

To summarize, pharmacy could, with more enlightened and realistic costing and pricing of prescriptions, increase its total prescription dollar volume by as much as $68,900,000 without, as indicated earlier, incurring any kind of negative reaction from the public. Of the $68.9 million, $47.2 million represent the actual out-of-pocket or below-break-even loss of money on 55.1% of all prescriptions dispensed. The difference of $21.7 million represents the *normal* amount of professional fee-profits which pharmacists are not taking above break-even on roughly a little better than eight out of ten prescriptions. For practical purposes—and for immediate action—this price adjustment potential represents an increase of 20¢ to 27¢ on at least 85% to 90% of all prescriptions. Figs. 3 and 4 summarize the major facts presented in this discussion.

[2] The total prescription cost *per family, per annum* is $17.90—from a study on "Family Medication Costs" conducted by S. B. Jeffries for use in the "Family Budget Standard" compiled by the Welfare and Health Council of New York City, 1955, for use by social and health agencies in New York City.

"The best interests of dentistry are served when pharmaceutical services are supplied from reliable pharmaceutical sources."

The authors discuss some professional relationships between dentistry and pharmacy

R—E—A—C—H—I—N—G

THE DENTIST*

by Donald C. Brodie† and Jeanette G. Yeazell

THE profession of pharmacy should be aware that large quantities of drugs, chemicals and health supplies enter dental usage through dental supply house outlets. From the standpoint of total professional service as well as from a purely economic point of view, the best interests of dentistry are served when pharmaceutical services are supplied from reliable pharmaceutical sources. Because of tradition and convenience many dentists rely on the dental supply house as the single source for most of their office needs. Since pharmacy desires to improve the general dental-pharmacy relationship, an understanding of the position of the dental supply house in the development and growth of dentistry in the United States must precede an evaluation of contemporary problems.

The history of the dental supply house is interwoven with the history of dental journalism and has been recorded by the American College of Dentists. The College was organized in 1921 "to stimulate the advancement of the dental profession, to encourage the elevation of its ideals, and to acquaint the younger element with the existing opportunities for service both to the profession and the public."[1] In striving to achieve these objectives, the College resolved to appoint a Commission to study the status of dental journalism in the United States because of the large proportion of dental literature published in periodicals financed and controlled by dental trade houses.

Dental Houses and Proprietary Journals

The Commission on Dental Journalism set out to obtain all pertinent facts regarding every dental periodical published in the United States during the period of January 1, 1928, to December 31, 1931. The detailed and well-documented report of the Commission defined proprietary or trade journalism as including "those periodicals published under conditions which may or do yield financial profits to persons as private owners, or as stockholders in owning corporations."[2] The Commission pointed out the serious dangers of trade journalism, reiterating the statement of the late Dr. William J. Geis of Columbia University, a strong proponent of reform in dental journalism, that:

> "Trade journalism in a profession is a form of vulgar autocracy. When it is benevolent, it pauperizes; when it is benignant, it patronizes; when it dominates, it demoralizes. Like autocracy, it exploits those who maintain it;

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The authors wish to thank Dr. John E. Gurley for his suggestions and for reading the manuscript.

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[1] *The Status of Dental Journalism in the United States.* Report of the Commission of Journalism of the American College of Dentists, 1928–1931, New York, p. 1 (1932).

[2] *Ibid.*, p. 57.

it misrepresents those who trust it; it seeks to destroy those who challenge it."[3]

Proprietary (trade) journalism was traced to its origin in the middle of the 19th century when there were comparatively few graduate dentists, limited finances, almost no dental organization, no statutory regulations, and a few struggling independent periodicals. Charlatanism was rampant in both medicine and dentistry. The business houses were quick to realize the advantages that might be gained from the creation of their own periodicals, and the low subscription rates of the proprietary journals forced independent journals out of existence.

"The trade journals interspersed sales propaganda with instructive writings by dental practitioners on professional subjects and were used primarily as effective means to advertise to the dental profession the dental products manufactured or sold by owners of the periodicals."[4]

In the early days of the dental profession, many situations arose that made it possible for dental supply houses to perform what seemed to be acts of professional cooperation. Quarters were offered for meetings of dental societies. Dental manufacturers and dealers frequently donated materials and equipment for demonstrations by clinicians. They supplied stenographers to record proceedings and published, in proprietary journals, the papers read before dental meetings as well as other dental writings. Some dentists wholly approved this publication procedure and either defended the practice of the trade-controlled journals or were apathetic in the support of the difficult and discouraging task of developing an independent dental journalism. Conditions fostered the establishment of a proprietary journalism, and once an effective line of communication had been made, commercial influence was evident in other levels of professional activity. The Commission reported that:

"A trade corporation is entitled to secure for itself every legitimate trade advantage . . . . Many of these legitimate trade advantages, although justifiable from the viewpoint of 'trade,' would be considered questionable practice in a profession . . . ."[5] "The dental profession . . . is now responsibly related to public health. Consequently, the conduct of its affairs, as an organized body of professional men, will be scrutinized by interested sister professions and the public . . . Suspicion that any activity of the dental profession is under the domination of commercial interests will lower the respect and confidence of all fair critics, and thereby bring about a depreciation in the usefulness of the dental profession in its health relationship."[6]

The dental trade corporations engaged not only in the manufacture and distribution of dental supplies but also interested themselves in activities which were actually professional in nature. Dental journalism was one of these activities. Because of the large circulations enjoyed by many proprietary publications, the potential field of influence was far-reaching. In the proprietary journals, dental practitioners were subjected to trade-slanted material on current political, professional and economic affairs. The Commission condemned such trade intrusions and leveled severe indictments against those trade houses which encroached on the domain of dentistry as a profession.

Professional Dental Journalism

Since it was believed that proprietary journalism was the source of many of dentistry's problems, the Commission strongly urged the development of an independent dental journalism. After careful study, the Commission drew up constructive recommendations to achieve this end. An organization of editors of all non-proprietary dental journals was formed to further the cause of non-proprietary journalism by insisting upon a dental literature of high scientific quality and professional responsibility, and by creating a standard for the acceptance and publication of advertisements. Of interest to pharmacists is the recommendation that only advertisements of therapeutic agents approved by the Council on Dental Therapeutics of the American Dental Association (established in 1930) should be eligible for admission to the pages of non-proprietary journals. Advertisements of materials or services not within the jurisdiction of the Council "should be accepted only if they meet requirements of truth in statement, moderation in claims, and dignity in presentation."[7]

Responsibilities of the Dentist

The American College of Dentists contributed significantly to the profession through the work of the Commission on Dental Journalism. Proprietary journalism has not been eliminated wholly and vestiges of some of the undesirable practices in dental journalism are still to be found today; however, over the period of years, an independent journalism, edited, owned and controlled by the profession, has resulted from the study of the Commission on Dental Journalism.

[3] *Ibid.*, p. 21.
[4] *Ibid.*, p. 14.
[5] *Ibid.*, p. 43.
[6] *Ibid.*, p. 44.
[7] *Ibid.*, p. 53.

Even with the strong support of an accurate, reliable, and responsible professional literature, the dentist faces a difficult problem in evaluating new therapeutic agents. He receives promotional literature on drugs and health supplies from reputable pharmaceutical manufacturers, from reliable dental houses, and from innumerable other dental sources. The average dentist, often faced with conflicting statements on the merit of a product, is handicapped by an educational background, conspicuously lacking in the chemistry, pharmacology, and use of modern therapeutic agents. Dental educators have recognized this deficiency. Recent graduates are better trained in the use of therapeutic agents. An editorial from a recent dental journal states:

> "With the advent of the antibiotic and chemotherapeutic age . . . the dentist's therapeutic responsibilities to his patients have not only become more important but more and more complex . . . *Pharmacologic knowledge of each product must be the basis for therapeutic decision . . .*"[8]

Dental Prescriptions

Pharmacists often suggest that dentists should be encouraged to write "more prescriptions" inferring that the prescription factor is the key to better interprofessional understanding. Although the prescription factor has some significance, when taken by itself it connotes a unilateral point of view. A more fundamental factor is the demonstration and promotion of a pharmacy service that the dentist will recognize and use as a vital adjunct to his practice. The dental houses supply therapeutic agents, free samples of drugs, printed prescriptions for their products and new product information. It may be convenient for the dentist to use the dental supply house as a source of drugs and health supplies, but in so doing he cannot be assured of the total professional service to which he is entitled. The best interests of both dentistry and pharmacy will be served when the dentist uses the services of his pharmacist for therapeutic agents, drug information, and health supplies.

Requirements of dental medicine differ in many respects from those of general medical practice. First, the needs of dental therapy are usually short term in nature. Most dental prescriptions are for one or two days of treatment, often requiring six or less doses. Seldom does the dentist write for medication to be used for as long as one week. Second, there is only an occasional request for a refill of a dental prescription. Third, the per-dose cost of the dental prescription is usually maximal because of the short-term need of the patient. Fourth, dentists often prefer to administer certain types of medication, *i.e.*, preoperative sedatives, after the patient reports for a dental appointment. Fifth, a very small percentage of the total prescriptions filled in the United States is written by dentists.[9] These factors support the contention that is sometimes made that dental prescriptions probably never will be a big part of the dollar volume of prescription practice.

Responsibilities of the Pharmacist

The pharmacist must assume the responsibility of providing the dentist with additional professional services. The promotion of these services must include careful planning, diligent execution, and regular follow-ups in order to build a successful dental program. The pharmacist can expect a cordial reception from the dentist when his plan includes the following:

1. A personal call on the dentist at periodic intervals.
2. Assistance in prescription writing, including explanation of the advantages resulting from the use of the written prescription.
3. Clarification of the legal requirements pertaining to the use and distribution of drugs, narcotics, and poisons.
4. Assistance in evaluating currently-used agents, particularly analgesics, sedatives, antihistamines, and muscle relaxants.
5. Assistance in determining the dosage of drugs for use in children.
6. A study of the needs in dentistry for specialized uses of drugs, for example, the requirements for medication in root canal sterilization.
7. Review of the economic benefits to be gained by the dentist in (a) use of official medication in his practice, and (b) procuring drugs, chemicals, and many special formulations from his pharmacy.

Historically, the dental supply house has been closely related to the practice of dentistry. Today, this outlet is engaged actively in the distribution of pharmaceuticals to dentists. Dentistry is not yet fully aware of the economic and professional advantages that can be gained by using an established pharmaceutical outlet as a source of supply for drugs and chemicals. Because the services of pharmacy can make a valuable contribution to dentistry, pharmacists should seek ways of obtaining better utilization of their services by members of the dental profession.

[8] Bruce L. Douglas, *New York State Dental J.* **20**, 88(1954).

[9] *The General Report of the Pharmaceutical Survey, 1946–49* American Council on Education, Washington, D.C., p. 227.

The Role of Levigating Agents in

Particle Size DETERMINATION*

by Robert Wayne Goettsch† and Louis C. Zopf‡

WHEREAS ointments are generally applied to highly sensitive, abraded, irritated, diseased or denuded areas, it is imperative that the finished preparation contain no granular or gritty particles which might give rise to further irritation.

Although ointments have been in extensive usage for centuries, the methods of evaluation for discerning the quality of preparation have undergone but little advancement. The study of the reduction of particle size and the dispersion of the medicament are important criteria for the evaluation of the method of preparation. Microscopic examination of ointments was first utilized by Braubach (1) in 1910 for the qualitative analysis of ointments. In 1913, Heidelberg and Vanderkleed (2) studied, microscopically, the effect of the time of mixing on the particle size of mercurial ointments. Pflag and Zopf (3) utilized microscopic and photomicrographic techniques in studying the effect of levigating agents on the particle size of coal tar ointments. The effect of the particle size of calomel on its rate of absorption and antiseptic activity has been studied by several investigators (4–7).

The purpose of this study was to compare the relative effectiveness of various levigating, dispersing, and solubilizing agents in the preparation of ointments.

Aquabase, a product of the College of Pharmacy of the State University of Iowa (8), was used as the base for preparing the ointments.

Aquabase

Cholesterol	30 Gm.
Cottonseed oil	30 Gm.
White petrolatum	940 Gm.

A control was prepared for each series of ointments. The medicament in the controls was incorporated by levigating with an equivalent amount of aquabase; otherwise, the method of preparation of the controls was identical with that of the respective ointments. The following substances were employed as levigating agents:

Polyethyleneglycol 400[1]
Polyethyleneglycol 600[1]
Tween 20[2] (polyoxyethylene sorbitan monolaurate)
Tween 60[2] (polyoxyethylene sorbitan monostearate)
Tween 80[2] (polyoxyethylene sorbitan monooleate)
Polyethyleneglycol 400 monostearate[3]
Polyethyleneglycol 600 monolaurate[4]
Atlas G-1441[2] (Polyoxyethylene sorbitol lanolin derivative)
Glycerin USP
Liquid petrolatum USP
Propylene glycol USP
Castor oil USP
Cottonseed oil USP
Olive oil USP
Hydrous wool fat USP

The formulas of the ointments prepared are given on the following page:

* Abstract of a thesis submitted in partial fulfillment of the requirements for the Master of Science degree in the College of Pharmacy, State University of Iowa.

† Fellow of the American Foundation for Pharmaceutical Education.

‡ Dean and Professor of Pharmacy, State University of Iowa, Iowa City.

[1] Products of Carbide and Carbon Chemicals Company.
[2] Products of Atlas Powder Company.
[3] Product of Glyco Products Company, Inc.
[4] Product of Kessler Chemical Company, Inc.

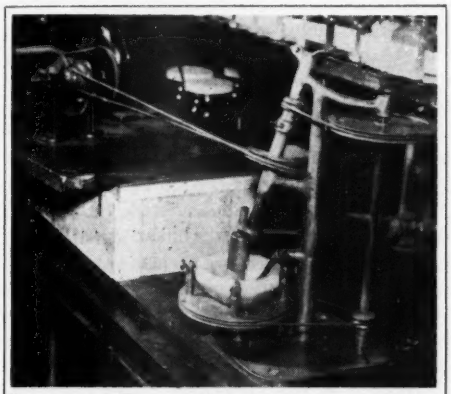


Figure 1. For uniformity of preparation method, power-driven agate mortar and pestle was used.

Ointments Examined

	Medicament	Levigating Agent	Aquabase
Peruvian balsam ointment	5	5	90
Coal tar ointment	5	5	90
Resorcinol ointment	5	5	90
Sulfur ointment	10	10	80

In order to insure uniformity in the method of preparation, a power-driven agate mortar and pestle was adapted (Fig. 1).

Sulfur and Resorcinol Ointments. The levigating agent was placed in the mortar and one-half the medicinal substance distributed on the surface and triturated for 3 minutes. Following each period of trituration, the ointment was scraped from the walls and consolidated in the center of the mortar before trituration was resumed. The remaining portion of the medicament was added and trituration continued for 3 minutes; an additional 3 minutes of trituration was required in the formation of the nucleus. One-half of the aquabase was then added and triturated for 3 minutes; the remaining portion of the aquabase added and trituration resumed for 3 minutes; then the ointment was triturated for a final 3 minute period. Total trituration time was 18 minutes.

Coal Tar and Peruvian Balsam Ointments. The levigating agent was placed in the mortar and all of the medicinal substance added in the center of the levigating agent and triturated for 9 minutes. The ointment was then removed from the sides of the mortar, the nucleus consolidated in the center and one-half the aquabase added, after which the procedure was identical with that of the sulfur and resorcinol ointments.

Preparation of Slides. A small quantity of the ointment, the amount which will adhere to the head of a crystallizing rod 1 mm. in diameter, was placed on the slide. The slide was placed upon a thermostatically controlled embedding table regulated to maintain a temperature of 52°, and when the base had just begun to flow the cover glass was placed on the specimen and the slide removed from the warmer.

Examination of Sulfur Ointments. Fifty particles, representing several fields of view, were measured by means of a micrometer ocular and the average particle sizes were calculated (Table I). The frequency distributions were recorded and particle size distribution histograms were constructed (Fig. 2, 3). The photomicrographs illustrate the effect of the levigating agents on the particle size reduction and dispersion of the sulfur throughout the base (Fig. 4–6). The levigating agents were classified, according to their preferential sequence, indicative of their effectiveness on particle size reduction (Table III) and upon dispersion of the sulfur (Table IV).

Examination of Coal Tar, Peruvian Balsam, and Resorcinol Ointments. Some of the levigating agents reduce the particle size of these substances to such a fine state of subdivision or solubilize them to such an extent that accurate measurements are almost impossible at the magnification of an ordinary microscope. The evaluation of these ointments was based upon a comparison of the photomicrographs (Figs. 7–15). The results are given in Table III. In addition to the photomicrographic studies, a miscibility study was conducted with peruvian balsam and coal tar to determine their compatibility with the various levigating agents.

Ten grams of coal tar or peruvian balsam was added to 10 Gm. of the levigating agent

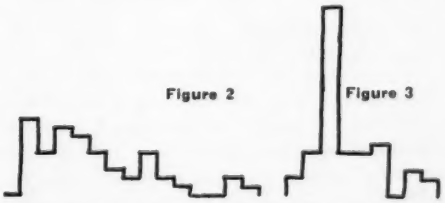


Figure 2. Frequency distribution vs. increasing particle size of sulfur in ointment, control; Figure 3, in ointment with Atlas G-1441.

Table I—Average Particle Size of Sulfur Ointments

Levigating Agent	Microns
Tween 20	656
Atlas G-1441	659
Lanolin	663
Tween 80	669
Tween 60	672
Polyethyleneglycol 600 monolaurate	676
Polyethyleneglycol 400 monostearate	682
Glycerin	715
Polyethyleneglycol 600	715
Polyethyleneglycol 400	728
Castor oil	738
Cottonseed oil	761
Olive oil	777
Liquid petrolatum	794
Propylene glycol	840
Control	938

in the mortar and triturated for five minutes. On the basis of the miscibility and ease of mixing, the levigating agents were classified according to their preference (Table II).

Levigating Agent and Particle Size

In the preparation of ointments it is essential that the medicinal substance be in the finest possible state of subdivision and uniformly mixed with the base (9). Particle size reduction must be achieved in the levigation procedure; therefore emphasis must be placed upon the choice of the levigating agent in order to insure maximum reduction of particle size and the greatest degree of dispersion of the medicament throughout the base.

Table II—Miscibility of Coal Tar and Peruvian Balsam With the Levigating Agents[a]

Levigating Agent	Coal Tar	Peruvian Balsam
Tween 20	1	1
Tween 60	1	1
Tween 80	1	1
Polyethyleneglycol 400 monostearate	1	1
Polyethyleneglycol 600 monolaurate	1	1
Atlas G-1441	1	1
Polyethyleneglycol 400	1	2
Polyethyleneglycol 600	1	2
Propylene glycol	2	2
Castor oil	3	3
Glycerin	4	3
Cottonseed oil	5	5
Olive oil	5	5
Lanolin	5	6
Liquid petrolatum	6	4

[a] Listed in order of their preferential sequence.

Incorporation of hydrophobic powders, crystalline substances, or bulky powdered substances requires that, in the preparation of the nucleus, the material be added in divided portions to achieve good dispersion and produce a homogeneous preparation. When preparing ointments containing balsamic substances or tars, it has been found advantageous to add all of the medicament directly to the levigating agent and triturate until homogeneous.

A standard method of preparation of slides had to be developed before any comparative evaluation could begin. An older method, namely, the placing of a small portion of the ointment on the slide and rubbing another slide or the finger across the surface to distribute the sample in a thin layer, produced streaked slides and was unsatisfactory for particle size measurements or photomicrographic work. Another disadvantage of this method was the possibility of pushing the particles to the outer edge of the slide or further reducing the particle size of the sample. A modification of the Heidelberg-Vanderkleed method of preparation of slides was used in this study (2).

Due to the differences in the physical and chemical properties of the medicinal substances, particle size measurements were not

Table III—Comparable Effectiveness of Levigating Agents on Particle Size Reduction[a]

Levigating Agent	Coal Tar	Peru Balsam	Resorcinol	Sulfur
Tween 20	1	1	2	1
Tween 60	2	1	2	1
Tween 80	2	1	2	1
Polyethyleneglycol 400 monostearate	1	1	2	1
Polyethyleneglycol 600 monolaurate	2	2	3	1
Atlas G-1441	3	2	2	1
Polyethyleneglycol 400	2	2	3	2
Polyethyleneglycol 600	3	1	3	2
Castor oil	4	3	4	2
Glycerin	5	3	3	2
Propylene glycol	7	2	1	4
Liquid petrolatum	8	4	4	3
Cottonseed oil	6	5	4	3
Olive oil	6	5	4	3
Lanolin	6	4	4	1
Control	9	5	5	5

[a] Listed in order of their preferential sequence.

always applicable. Particle size measurements afford a method of evaluating sulfur ointments for particle size reduction and the degree of dispersion. Peruvian balsam and coal tar were found to be miscible with certain of the levigating agents and were solubilized to such an extent that particle size measurements were impractical. Some of the levigating agents exerted dramatic solubilizing effects on certain crystalline substances such as resorcinol; therefore, particle size measurements of resorcinol ointments were not feasible.

In any study involving particle size measurements, decision must be made as to what shall be regarded as a particle and which diameter shall be measured (10). Martin's diameter has been shown to give results in accordance with those from the three actual dimensions of the individual particles (11). According to Martin (12), this diameter is described as a measurement of the distance between the opposite sides of the particle measured crosswise of the field and on a line bisecting the projected area of the particle.

Precipitated sulfur is preferred for the preparation of sulfur ointments as it is available in a finer state of subdivision than other forms of sulfur. Due to the crystalline nature of sulfur, a levigating agent must be used to reduce the particle size. Tween 20, 60, 80, Atlas G-1441, polyethyleneglycol 400 monostearate, polyethyleneglycol 600 monolaurate, and lanolin were found to be effective agents for reducing the particle size of sulfur (Tables I, III). Tween 20, 80, and Atlas G-1441 are the most effective agents for promoting the dispersion of the sulfur throughout the base (Table IV). Results of this investigation indicate a relationship between particle size and the degree of dispersion. On the basis of these findings, any of the levigating agents rated as 1 in Table III is recommended for preparing sulfur ointments.

Table IV—Comparable Effectiveness of Levigating Agents on the Dispersion of Sulfur[a]

Levigating Agent	Results
Atlas G-1441	1
Tween 20	1
Tween 80	1
Polyethyleneglycol 400 monostearate	2
Polyethyleneglycol 600 monolaurate	2
Polyethyleneglycol 400	2
Polyethyleneglycol 600	2
Tween 60	2
Glycerin	2
Lanolin	2
Liquid petrolatum	2
Castor oil	3
Olive oil	3
Cottonseed oil	3
Propylene glycol	4
Control	5

[a] Listed in order of their preferential sequence.

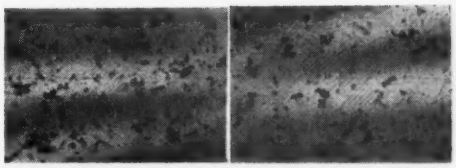
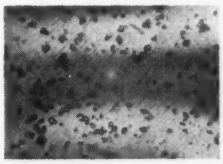


Figure 4 (l.): Sulfur Ointment, Control, 100 X 1/5 second. Figure 5 (r.): Sulfur Ointment, Tween 20, 100 X 1/5 second.



◀ Figure 6: Sulfur Ointment, Atlas G-1441, 100 X 1/5 second.

Figure 7: Coal Tar ▶ Ointment, Control, 100 X 1/5 second.

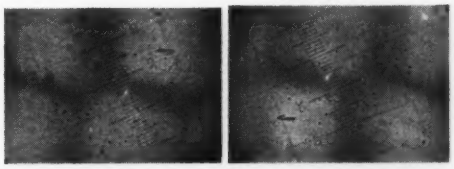


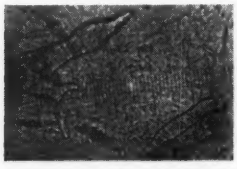
Figure 8 (l.): Coal Tar Ointment, Tween 20, 100 X 1/5 second. Figure 9 (r.): Coal Tar Ointment, PEG 400 Monostearate, 100 X 1/5 second.

Peru balsam is frequently prescribed in ointments and its usage leads to certain compounding difficulties (13). Some of these difficulties are due to the insolubility of the balsam in the ointment vehicle. A smooth preparation may be prepared using petrolatum as the base, but upon standing the resins of the balsam will separate and produce a gritty ointment. These difficulties may be eliminated by the proper selection of a levigating or dispersing agent for the balsam. It was found that liquid petrolatum, cottonseed oil, olive oil, and lanolin do not mix well with the balsamic substance and a precipitation of the resinous portion of the balsam occurs. Glycerin and castor oil partially solubilize or

emulsify the balsam; while Atlas G-1441, propylene glycol, Tween 20, 60, 80, and the polyethyleneglycols and their esters solubilize the balsam and form a homogeneous preparation. On the basis of these findings, polyethyleneglycol 400 monostearate, Tween 20, 60, 80, and polyethyleneglycol 600 are recommended as levigating agents for peruvian balsam (Table III).

Coal Tar.—It was suggested that incorporation of coal tar into oleaginous bases may be greatly facilitated by the addition of small amounts of castor oil, hydroxystearin sulfate, or anhydrous lanolin (14). Pflag and Zopf (3) recommended the use of Tween 20 for the incorporation of coal tar. Photomicrographic and miscibility studies of coal tar have proven that olive oil, cottonseed oil, liquid petrolatum, and lanolin do not mix well with coal tar. Propylene glycol, glycerin, and castor oil produce smoother preparations but are not as effective as Atlas G-1441, Tween 20, 60, 80, or the polyethyleneglycols and their esters. The results of these studies have proven that Tween 20 and polyethyleneglycol 400 monostearate are the most effective agents for coal tar (Table III) and confirm the earlier work on the value of Tween 20 as a levigating and dispersing agent for coal tar.

Resorcinol, 1,3-dihydroxybenzene, is reported freely soluble in glycerin, propylene glycol, alcohol, and water. Of the levigating agents studied, propylene glycol is the most effective solubilizing agent for resorcinol (Table III). The photomicrographic studies illustrate the relative effectiveness of the levigating agents on resorcinol and indicate that propylene glycol is the levigating agent of choice; however, Atlas G-1441, Tween 20, 60, 80, and polyethyleneglycol 400 monostearate also produced superior preparations.



◀ **Figure 10: Peru Balsam Ointment, Control, 100 X 1/5 second.**

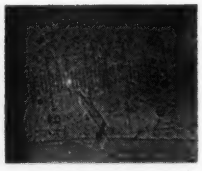


Figure 11: Peru ▶ Balsam Ointment, Tween 20, 100 X 1/5 second.

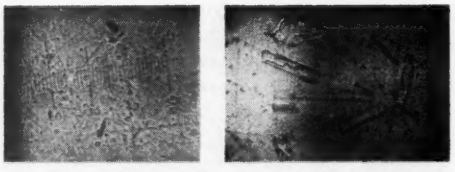


Figure 12 (l.): Peru Balsam Ointment, Tween 80 100 X 1/5 second. Figure 13 (r.): Resorcinol Ointment, Control, 100 X 1/5 second.

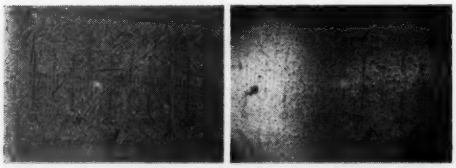


Figure 14 (l.): Resorcinol Ointment, Propylene Glycol, 100 X 1/5 second. Figure 15 (r.): Resorcinol Ointment, Tween 20, 100 X 1/5 second.

Summary

- The particle size reduction and the degree of dispersion throughout the ointment base are dependent upon the levigating agent employed.
- Tween 20, 60, 80, Atlas G-1441, polyethyleneglycol 600 monolaurate, polyethyleneglycol 400 monostearate, and lanolin are recommended as levigating agents for sulfur.
- Tween 20 and polyethyleneglycol 400 monostearate are the levigating agents of choice for coal tar.
- Polyethyleneglycol 400 monostearate, Tween 20, 60, 80, and polyethyleneglycol 600 are recommended as levigating agents for peruvian balsam.
- Propylene glycol is recommended as the levigating agent for resorcinol.

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Typical Days

FROM THE SECRETARY'S DIARY FOR MAY, 1956

4th These early days in May organizing internal affairs in preparation for summer vacations of the staff and winding up the spring membership campaigns in the student branches. Also planning for the coming affairs of this Fall, with National Pharmacy Week to be observed this year from October 7 to 13, receiving special attention. Today attending the opening of the 50th Anniversary Exhibit commemorating passage of the Food and Drug Law at the Smithsonian Institution and noting that Acting Curator George Griffenhagen, a pharmacist, has worked up a most interesting exhibit in cooperation with FDA.

7th Now welcoming Paul Parker, President of the A.S.H.P., as a full-time member of the A.PH.A. Headquarters staff, who will act as Director of our Division of Hospital Pharmacy. We look forward to continuation of the high quality of services rendered by this important A.PH.A. Headquarters agency under Don Francke and Gloria Niemeyer and the eventual addition of other services to hospital pharmacy.

8th Now working on the biographical sketches for the annual Election Bulletin and the preparation of the ballots for mailing to all members. Also reviewing with Government agencies the property assignments contemplated in the area of our present building.

9th A meeting with the Fine Arts Commission to review in some detail the progress of general planning for the area in which our building is located and pointing out the possibilities for expansion of our facilities and learning what it will take to meet building requirements in conformity with aesthetic as well as utilitarian needs.

12th This evening attending the Philadelphia College of Pharmacy and Science Alumni dinner and greatly pleased to be in the company of E. J. Hughes as one of the two recipients of the Alumni Award. Edward J. Hughes recently retired as Chief of Drug Control for Eli Lilly and Company, having joined that organization after a long tenure as a member of the P.C.P. & S. faculty.

14th Today a visit from George Q. Baird, Secretary of the Southern California Association, who was in Washington to represent the Governor of his State at a labor relations conference and who brought us much interesting information about pharmaceutical affairs in Los Angeles and vicinity.

18th A number of conferences yesterday and today dealing with medical care problems and plans as projected by public and private agencies concerned with sickness insurance and in the evening on the train to Chicago.

19th The Liberty Limited arriving late as usual, but this time more than a half hour behind schedule, thus missing connections for Milwaukee and reporting late to the Hospital Pharmacy Institute of the Catholic Hospital Association meeting in the city made famous by certain brews. Arriving in time, however, to address the Institute on Evaluation of Pharmacy Internship Programs. In the evening to dinner with Past A.PH.A. President Sylvester H. Dretzka who continues to uphold professional standards in Wisconsin as Secretary of the State Board of Pharmacy.

21st Now back in Washington after spending the morning in Baltimore on the return trip from Chicago. Much discussion with our financial advisors on A.PH.A. investments and with Dr. H. A. B. Dunning reviewing the Building Fund campaign and Government plans for the property adjoining A.PH.A. holdings.

24th Today attending the annual meeting and luncheon of the Health Information Foundation in New York and meeting many of the leaders in the drug industry who had gathered to do honor to George F. Smith, the newly elected Board Chairman of the Foundation, and to listen to the splendid report of President George Bugbee.

28th A day well spent with a group of public relations representatives of the A.D.M.A., American Medical Association, American Hospital Association, N.A.R.D., F.W.D.A., and other organizations interested in the overall public relations program now getting under way as the "Health News Institute." Chairman George F. Smith who spearheads the A.D.M.A. program stated the objectives and the P.R. men commented on how this new agency can be made to operate efficiently, with Chet Shaw, the new Director, taking in all of the suggestions.

31st This morning giving testimony to the House Committee considering D.C. legislation on narcotic and hypnotic drugs and pointing out that regulation of barbiturates should be at the State level, thus making Federal inspections of pharmacists' prescription files and additional record-keeping by pharmacists unnecessary.

1. American suppository mold, ca. 1860

Tools of the Apothecary

4. SUPPOSITORY MOLDS

2. Chapman's mold (1864) used by John Uri Lloyd.

*by George Griffenhagen**

Formulas for suppositories appear in an early Assyrian medical clay tablet of 2600 B.C. as well as in the Egyptian *Papyrus Ebers* of 1550 B.C. Hippocratic writings recommended the use of suppositories, calling them "prosdita" or "balanoi." The word suppository comes from the Latin word "sub-ponere" meaning to place under, or "substitute," in that suppositories were substitutes for an enema. The term "pessary" (vaginal suppository) comes from the Greek word describing a small stone for playing the game of draughts, while the "bougie" (urethal suppository) comes from the French word meaning wax candle.

The suppository, a common form of medication used through the centuries, was generally prepared much in the same manner as pills. Suppository bases included wax, suet, soap, "boyled honey" and "the white of an egg and juice of Plantane." Philbert Guibert in 1639 gave the following instructions for making suppositories:

> "Take two ounces of common honey, boyle it in a little sauce pan upon a cleare fire untill it cometh to the thickness of an Electuary solide; that done, take it from the fire and stirre into it two drammes of common salt or a dramme of sal gemme in powder, mixe them very well with a Spatule, and then poure it on a paper being anoynted over with oyle and forme suppositories."

The use of cacao butter for the preparation of suppositories can be traced back to the 18th century shortly after Wilhelm Homberg (1652–1715) had isolated the "oil of theobroma." As early as 1766 Antoine Baumé described the use of a suppository mold into which the liquefied cacao butter could be poured. Alfred B. Taylor, pharmacist of Philadelphia, popularized the use of cacao butter in America through an article in 1852. Taylor noted that Dr. Silas W. Mitchell, who was studying in Paris in 1851, brought the formula back with him. However, Griffith's *Universal Formulary* for 1850 included the formula for suppositories of hemlock consisting of "one part of white wax with four parts of butter of cacao."

The use of cacao butter brought about a change in the methods of compounding suppositories. Taylor recommended using "moulds made of sized paper . . . placed in a shallow box of sand to preserve their position." Other early "home-made" suppository molds include those prepared from clay or plaster of Paris. One pharmacist even suggested drilling holes directly into a cake of ice, which after melting would leave the hardened suppository completely free and ready for dispensing.

The first metallic suppository molds in America were manufactured commencing about 1860. They consisted of "a tin tray with movable top perforated with a convenient number of holes; into these are put the individual molds which are made of Britannia ware; the tray is filled with ice and the melted ingredients are poured into the moulds" (Fig. 1). William B. Chapman, a Cincinnati pharmacist, constructed one of the first molds made directly in a solid metal block. He made these molds in 1864–65, selling them to fellow pharmacists for $5.00 each (Fig. 2).

Both of these molds presented the problem of removing the suppository after it had hardened. The first American suppository mold to be divided for easy removal of the suppository was introduced by Charles Bullock and Edmund Crenshaw of Philadelphia in 1867. It was made of brass, hinged at one end, and provided with handles at the other end upon which fits a sliding ring to secure the two halves together (Fig. 3). Prior to 1871 Henry B. Brady of England produced silver plated suppository molds similar to the Bullock and Crenshaw mold. During the 1870's the U.S. Patent Office granted patents on a variety of suppository molds (Fig. 4) and by 1875 there were no less than 19 versions to be found on the market.

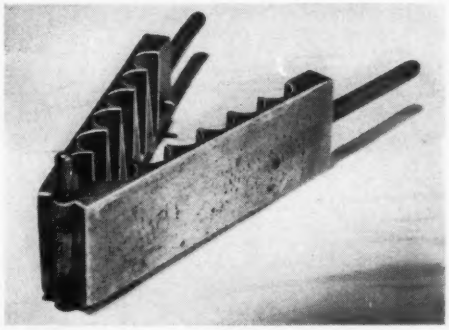
The fusion method of preparation of suppositories was not always suitable, and thus the "cold compression" method was devised as an alternate. As early as 1868 Alexander M.

* Acting Curator, Division of Medicine, Smithsonian Institution, and Consultant to the AMERICAN PHARMACEUTICAL ASSOCIATION Museum.

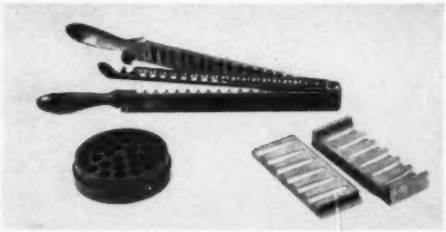
Knowlson patented a suppository mold resembling an ordinary syringe. The first successful compression mold, however, was patented by the inventor Henry R. Heyl in 1879 and was introduced immediately by the assignor, Henry Archibald. The mold was announced as "a machine which will revolutionize the present tedious and to some extent inaccurate way of preparing suppositories" (Fig. 5). Another rush to the U.S. Patent Office resulted in numerous patents for compression type molds.

Of the compression molds, the Whitall, Tatum mold, which was patented by Charles A. Tatum in 1895, eventually replaced all other contemporary models. This suppository machine is still being offered by the Armstrong Cork Company as a "compact and efficient cold compression machine designed especially for retail pharmacists" (Fig. 6). Similar compression suppository machines are sold by Arthur Colton and by F. J. Stokes Company. Another compression suppository mold on the market today (sold by John M. Maris) was patented by Samuel K. Applebaum in 1924.

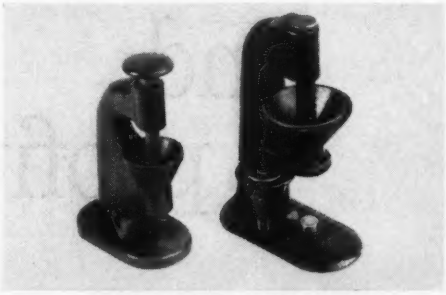
Fusion type, hinged and non-hinged suppository molds of substantially the same design as the Bullock and Crenshaw mold of 1867 are offered in a variety of sizes and made from a variety of materials (including aluminum alloy and Plexiglas) by Armstrong Cork Company, Arthur Colton, F. J. Stokes, and John M. Maris.



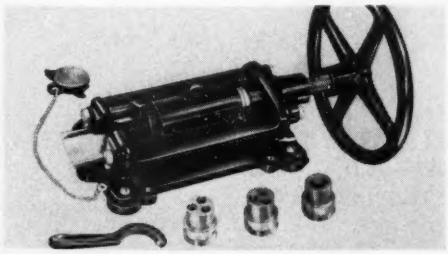
3. Bullock and Crenshaw suppository mold manufactured in 1867. Courtesy Philadelphia College of Pharmacy and Science Museum.



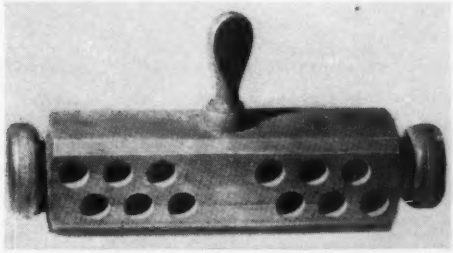
4. Patent Office mold models: upper, Benton, Myers and Canfield (1875); lower l., Blackman (1873), r., Plaisted (1874). Courtesy Smithsonian.



5. Archibald mold: l., original Patent Office Model (1867); r., early commercial model. Courtesy Smithsonian Institution.



6. Whitall, Tatum suppository machine, patented in 1895 and sold today by the Armstrong Cork Company, Lancaster, Pa.



7. Eighteenth century European wooden suppository mold, Swiss Historical Pharmacy Museum, Basel, Switzerland.

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Book Reviews

Drug Store Operating Costs and Profits

By Orin E. Burley, Albert B. Fisher, Jr., and Robert G. Cox. xvi + 549 pp., illus. McGraw-Hill Book Co., New York (1956). $8.50.

This new book presents methods and data to help the drug store owner analyze margins, costs, departments, and commodities, thereby assisting him to determine the possibilities and approaches for more profits in his operation. The importance of controlling costs and hidden losses such as shrinkage, idle time, and improper use of space is stressed. Authors Burley and Cox of the Wharton School of Finance and Commerce, University of Pennsylvania, and Fisher, National Wholesale Druggists' Association Director of Research, state in the preface:

"This report on sales, margins, costs, and profits of retail drug stores, as well as other phases of their operations, is the culmination of more than 3 years of work by the various advisory committees and the technical research staff which have had responsibility for the study. The benefits of this kind of fundamental study are designed to assist the various segments of the industry by providing accurate information upon which policy and operating decisions can be based. Although the study should be of greatest benefit to the retail drug trade, it should, in addition, provide manufacturers and wholesalers—partners with the retailers in distributing drugs and allied products to the general public and the medical profession—with a detailed picture of drug store departmental and commodity-group operations, as expressed in a variety of operational data."

This book should be useful for drug store owners, pharmaceutical manufacturers, wholesale druggists, and professional groups and trade associations in the marketing and the drug fields.

The American Drug Index

By Charles O. Wilson and Tony Everett Jones. 576 pp. J. B. Lippincott Co., Philadelphia (1956). $5.

This volume is intended to help those who need information on the nomenclature of pharmaceuticals and chemicals available to the medical and allied professions. In this rapidly expanding field of compounds and products, almost any *new* book is preferable to an old one because it can include the later additions. This book is particularly good because of its extensive coverage of old and new items. The index is arranged alphabetically with extensive cross-indexing. Names listed are generic, brand (trade mark, proprietary, or specialty), chemical, U.S.P., N.F., N.N.R., and A.D.R.; the official designations referring to U.S.P. XV and N.F. X. Data given in concise form include manufacturer, dosage forms, size, dosage and use. Correlation of individual drugs and combinations occurs throughout the index and large groups of related products are tabulated; e.g., aspirin-barbiturate combinations, belladonna extract combinations, etc.

As in any first edition of a book dealing in many names, some misspellings occur; some source references are incorrect, probably because decisions regarding inclusion in other books such as the U.S.P. XV and N.F. X can be altered after preliminary lists have been distributed; and items mentioned in textbooks but no longer available under the given names are included. Most of these errors are practically unavoidable and do not detract from the value of the index as a reference that should be useful to physicians, pharmacists, and others who frequently find it necessary to obtain information quickly. The book is a must for pharmaceutical and other reference libraries.

Tests and Standards for New and Nonofficial Remedies 1955

Supplement to Tests and Standards 1953. Edited by Walter Wolman. ix + 161 pp. The American Medical Association, Chicago, Ill. (1955). $2.00.

This volume is a supplement to *Tests and Standards for New and Nonofficial Remedies 1953* and contains all tests and standards monographs for nonofficial products that have appeared in *New and Nonofficial Remedies* since 1953. Thus, the present volume includes tests and standards for nonofficial products accepted by the Council on Pharmacy and Chemistry under its former seal of acceptance program, between January 1, 1953, and January 1, 1955. In addition, many monographs that have been extensively revised since 1953 also appear in this *Supplement.*

The format and style of the *1955 Supplement to Tests and Standards for N.N.R. 1953* are essentially the same as in the original book. The monographs describe commercial materials actually manufactured for use in pharmaceuticals, and as a consequence physical characteristics given for a basic drug or an active ingredient of a dosage form may differ from those reported in the literature for highly purified materials. Most physical properties and tests for purity are determined by the techniques described in detail in U.S.P. XV. A notable exception to this rule, however, is the determination of melting point by a method different from that prescribed by the official compendia. In some instances more than one method of assay is given for the determination of a characteristic group or molecule because the equipment required for one method may not be available to all laboratories. As far as possible the assay procedure for an active ingredient of a dosage form is adapted from the method given for the basic drug.

In *Tests and Standards for New and Nonofficial Remedies 1955* will be found definitions, structural formulas, physical descriptions, tests for identity and purity, methods of assay for the active ingredients of dosage forms, and tolerance limits for those drugs accepted by the Council on Pharmacy and Chemistry for which official standards are not available.

The Complete Book of First Aid

By John Henderson. 341 pp. Duell, Sloan and Pearce, New York—Little, Brown and Company, Boston (1955). $3.50.

This first aid manual includes information on the emergency treatment of accidents as well as the more common illnesses. The clarity of presentation makes it a good text for first aid trainees in civil defense or other emergencies. A chapter deals with poisoning, but suggestions for first aid are in general terms only. Physical first aid procedures are well illustrated and a general index is included.

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Second Interim Revision Announcement
PHARMACOPEIA OF THE UNITED STATES
Fifteenth Revision

The following U.S.P. XV interim revisions have been approved, to become effective as of June 1, 1956. In view of the fact that the First U.S.P. XV Supplement is scheduled for release in the near future, the U.S.P. headquarters does not contemplate distributing reprints of the Second Interim Revision Announcement.

The interim revisions announced herein and in the previous announcement (see THIS JOURNAL, **17,** 40, Jan. 1956) will be included in the First U.S.P. XV Supplement, which is scheduled to appear this year, and which will be mailed to all registered holders of U.S.P. XV who have returned the Supplements postcard supplied with each copy.

Aluminum, page 30—Change the section *Heavy metals* to read:

Heavy metals, page 898—Dilute 25 ml. of *Solution A* with water to 50 ml.: the heavy metals limit for Aluminum, determined in 25 ml. of the solution, is 100 parts per million.

Calamine Lotion, page 110—Insert after the first paragraph of the directions for preparation, the following:

If a more viscous consistency in the Lotion is desired, the quantity of bentonite magma may be increased to not more than 400 ml.

Dibasic Calcium Phosphate, page 123—In the rubric delete the words "calculated on the anhydrous basis."

Erythromycin Tablets, page 269—Change the rubric to read:

Erythromycin Tablets contain not less than 85 per cent of the labeled amount of erythromycin, present in the form of erythromycin or a suitable salt of erythromycin.

Heparin Sodium Injection page 318—Change the section *Pyrogen* to read:

Pyrogen—Heparin Sodium Injection, diluted if necessary with pyrogen-free saline T.S. to a concentration of 1000 U.S.P. Heparin Units in each ml., meets the requirements of the *Pyrogen Test*, page 883, the test dose being 2 ml. per Kg. of body weight.

Methenamine Mandelate, page 427—In the rubric change "not more than 50 per cent of mandelic acid ($C_8H_8O_3$)" to: not less than 50 per cent of mandelic acid ($C_8H_8O_3$).

Polymyxin B Sulfate, page 564—In the section *Loss on drying* change "4 per cent" to: 7 per cent.

Sulfoxone Sodium Tablets, page 703—In the *Assay*, delete "× 100" from the formula in the second sentence of the paragraph *Procedure.*

Calcium Pantothenate Assay, page 861—In the section *Para-aminobenzoic Acid—Nicotinic Acid—Pyridoxine Hydrochloride Solution*, page 862, change "20 mcg. of nicotinic acid" to: 50 mcg. of nicotinic acid.

Reagents, page 948—Under *Papaic Digest of Soybean Meal*, page 1026, delete the second sentence and substitute therefore the following:

It meets the specifications under *Pancreatic Digest of Casein*, page 1024, except that it shows substantial amounts of reducing sugars. It contains fermentable carbohydrates and gives positive tests for indole, acetylmethylcarbinol and sulfide upon inoculation and incubation with the specified organisms.

Released May 22, 1956; Official June 1, 1956.

By authority of the U.S.P. Board of Trustees and of the Executive Committee of Revision.

ROBERT L. SWAIN, *Chairman*
U.S.P. Board of Trustees

LLOYD C. MILLER, *Director*
of Pharmacopeial Revision

Drs. Fischelis and Hughes Honored

Seated (l. to r.)—Drs. Robert P. Fischelis and Edward J. Hughes. Standing (l. to r.)—Dr. Ivor Griffith, Dr. John N. McDonnell, and Mr. James B. Merrick.

The Alumni Association of the Philadelphia College of Pharmacy and Science at the Drake Hotel in Philadelphia, May 12, presented the Annual Alumni Association Awards to Dr. Robert P. Fischelis, Secretary and General Manager of the AMERICAN PHARMACEUTICAL ASSOCIATION, and to Dr. Edward J. Hughes, recently retired from the post of Director of the analytical laboratories of Eli Lilly and Co. Dr. Fischelis graduated in 1911 from the School of Pharmacy of Medico-Chirurgical College, now merged with the Philadelphia College, and Dr. Hughes was a member of the P.C.P. class of 1916. The presentations were made by Alumni President James B. Merrick and Dr. John N. McDonnell, Chairman of the awards committee.

Dr. Ivor Griffith, President of the College, extended greetings to more than 300 returning graduates.

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MEMBERSHIP RECORDS

THE ASSOCIATION EXTENDS A CORDIAL WELCOME TO THE FOLLOWING MEN AND WOMEN WHO WERE ACCEPTED FOR ACTIVE MEMBERSHIP DURING THE MONTH PRECEDING PREPARATION OF THIS ISSUE.

ALABAMA

Cole, Jack, Springville
Gorman, Clarence A., Birmingham
Peacock, Thomas H., Birmingham

ARKANSAS

Easterly, William D., Jr., Little Rock

CALIFORNIA

Beretta, John J., San Diego
Carr, Eva S., Los Angeles
Grund, Roy W., Pasadena
Hollingsworth, Thelma N., National City
Mann, Seymour H., West Los Angeles
McPeak, Robert E., Alameda
Miles, Kenneth, Woodland Hills
Webster, Barbara B., Long Beach

COLORADO

Dickison, Walter L., Boulder
Wolf, Gordon E., Denver

FLORIDA

Kramer, LTJG Stanley H., Key West
Rogers, Bernard S., Jacksonville

ILLINOIS

Douglas, Edith, Evanston
Jaffe, Max E., Kankakee
Kidder, Gordon C., Chicago
Ravegnani, Daniel A., Manteno
Torralba, Lydia F., Chicago
Yates, Marlin, Geneva

INDIANA

Cimino, Frank, Jr., Muncie
Huggins, John A., Evansville
Shepler, John T., Indianapolis

IOWA

Lach, John L., Iowa City

KENTUCKY

Townsend, Fred S., London

LOUISIANA

Moore, Albert H., Alexandria
Williams, Joe B., New Orleans

MARYLAND

Connelly, Mary, Baltimore
Ogrinz, Alexander J., Jr., Baltimore
Stockton, Walter W., Silver Spring

MASSACHUSETTS

Bemis, Edward O., Rockland
Porshin, Sydney J., Natick
Smith, Carl M., Reading
Sullivan, Jeremiah B., Jr., Allston

MICHIGAN

Armstrong, Frederick C., St. Clair Shores
Filippini, Florido A., Detroit
Moroney, Daniel P., Grosse Pointe

MINNESOTA

Levinsohn, Sidney H., Minneapolis
Mulholland, K. W., Winona

MISSISSIPPI

Campbell, Joseph L., Meridian

MISSOURI

Binder, Leland, St. Louis
Dye, Raymond E., St. Louis

MONTANA

Carlson, James R., Miles City

NEW JERSEY

Corring, George F., Englewood Cliffs
Horoschak, Theodore, Fairlawn
Shutz, Leon, Trenton
Szalkowski, Chester R., Roselle

NEW YORK

Bernabo, Albert C., New York City
Dantuono, Joseph, Flushing
Hesse, Clifford J., New York City
Liberman, Samuel S., New York City
Monteith, Melvin E., Buffalo
Seitel, Harry S., Beacon

NORTH CAROLINA

Hood, India B., Richlands
Van Valkenburgh, William B., Asheville

NORTH DAKOTA

Hoel, William R., Fargo

OHIO

Barb, Lewis E., Fremont
Caine, Rosalie, Waterville
Clinton, Joseph D., Jefferson
Dickerson, Paul E., North Canton
Kaplow, M. L., Cleveland
Nicklaus, Louis C., Columbus
Salisbury, Rupert, Columbus
Trainor, Eugene R., Cincinnati

OKLAHOMA

Stephens, Betty M., Enid

OREGON

Yeo, Ernest E., Gladstone

PENNSYLVANIA

Eriksen, Stuart, Philadelphia
Fine, Samuel, Philadelphia
Herneisen, Arlington K., Shillington
Lilly, Stephanie H., Monroeville
McCue, Ralph, Pittsburgh
Zeglin, William, Upper Darby

SOUTH CAROLINA

Kerr, Robert M., Columbia
Ledbetter, Richard B., Columbia

TENNESSEE

French, DeWitt C., Jr., Memphis
Havron, William S., Chattanooga
Walker, Robert T., Nashville

TEXAS

Cannon, Leonard W., Houston
Dorman, Mary, Houston
Griffeth, Edward K., Bellaire
Howard, Ernest L., Houston
Johnson, Melvin S., Houston
Littleton, Charles S., Houston
Walls, Rex M., Bellaire

UTAH

McCarty, H. Ward, Salt Lake City

WASHINGTON

Geraghty, Burke J., Seattle

WISCONSIN

Ellis, Lillian H., Green Bay

INTERNATIONAL

Bergson, Abraham, Toronto, Can.
Fuller, Horace J., Toronto, Canada
Tanchoco, Filemon, Jr., Zurbaran, Manila, P.I.

Deceased Members

Bolles, George E., Danbury, Conn.
Brown, Aubrey A., Toronto, Ont., Canada
Douglas, Rene H., Evanston, Ill., Oct. 26, 1955
Fuller, John A., York, Pa., Jan. 29, 1956
Hover, William A., Long Beach, Calif. (Life Member)
Jones, J. Harold, Alexandria, Ind., Aug. 18, 1954
LaPorte, Philip J., Lowell, Mass.
Meier, Paul F. W., Milwaukee, Wis., Dec. 12, 1955
Olshin, Meyer D., Irvington, N.J., Mar. 22, 1956
Osterman, Henry, Seymour, Ind., Dec. 4, 1955
Putnam, F. C., Long Beach, Calif.
Smith, Gordon R., St. Catherine's, Ont., Canada
Strand, John A., Portland, Oreg., Jan. 26, 1956
Vlazny, John G., Chicago, Ill., Oct. 25, 1955
Wertz, Harry E., Johnstown, Pa.

OBITUARIES

Dr. George B. Hook, Pharmacy Officer for the Public Health Service in Tacoma, Wash., died in an airliner crash on April 2, 1956. The 38-year-old native of Warren, Pa., was one of five persons who lost their lives when a Northwest Orient Airlines stratocruiser fell into the sea and sank. Hook received his doctor's degree in Pharmacy Administration in June, 1955, at the University of Pittsburgh where he was faculty adviser to the Student Branch of the AMERICAN PHARMACEUTICAL ASSOCIATION and taught in the School of Pharmacy while working for his doctorate. During World War II he served in the Mariana Islands as Medical Supply Officer in the U. S. Army Medical Corps. He is survived by his widow Bernice, also of Warren, and four children.

(Continued on page 424)

℞ information service

Members of the American Pharmaceutical Association are invited to submit their professional problems to The Journal, 2215 Constitution Ave., N. W., Washington 7, D. C. Inquiries should include all pertinent details.

Monosodium Glutamate Injection and Potassium-Free Carbacrylic Resin.

Please give any information on availability of potassium-free carbacrylic resin and glutamic acid i.v., possibly as monosodium glutamate.—J. C. B., Illinois.

Potassium-free carbacrylic resin can be obtained from The National Drug Co., 4663 Stenton Ave., Philadelphia 44, Pa. (see Resion); or Rohm and Haas Co., Washington Square, Philadelphia 5, Pa.

Monosodium glutamate can be obtained from The Huron Milling Co., 9 Park Place, New York 7, N.Y., or McKesson & Robbins, Inc., Chemical Division, 155 E. 44th St., New York 17, N.Y.

An article on "Monosodium Glutamate Injection," by T. D. Whittet and E. J. Anderson, appeared in *The Pharmaceutical Journal* (London), Dec. 19, 1953, page 471. The following formulas have been used at University of Michigan Hospital, Ann Arbor, Mich.

Sodium Glutamate Injection 25%

Monosodium glutamate.....	25 Gm.
Water for injection, to make.....	1000 ml.

Use aseptic technique throughout. Selas filter and pack in 50-ml. sterile NoSolVit vials.

Sodium Glutamate Injection 23 Gm. per 80 ml.

Glutamic acid.....	100 Gm.
Sodium hydroxide AR.....	27 Gm.
Freshly distilled water, to make 400 ml.	

Dissolve the sodium hydroxide in 200 ml. of the distilled water. Then slowly, with stirring, add the glutamic acid. Make up to 400 ml. with the water and stir until dissolved. Selas filter and pack 80 ml. in a 100-ml. NoSolVit vial. Autoclave at 240° for 15 minutes.

D.O.N. in Cancer Studies

Is any information available about a drug called D.O.N.?—B. C., New York.

The drug referred to, D.O.N. (6-diazo-5-oxo-L-norleucine), and its inhibition of a particular type of mouse tumor (sarcoma 180), was reported at the 1956 Dallas, Texas, meeting of the American Chemical Society by a group of investigators associated with the Research Division of Parke, Davis and Company, the Mellon Institute, and the Sloan-Kettering Institute for Cancer Research. A Parke Davis spokesman emphasized that no clinical studies had been carried out using the new product.

Cepharantin

Can you help us supply any information about a Japanese drug called Cepharantin?—E. J. M., Minnesota.

There have been some recent reports on the alkaloid, Cepharanthine, obtained from the plant *Stephania cepharantha*. Patents have been issued in the United States, Germany, and Japan relating to this drug. An article on "Plant Substances Active Against *Mycobacterium Tuberculosis*," by Florence K. Fitzpatrick (Sharp & Dohme Division, Merck & Co.) was published in *Antibiotics & Chemotherapy*, **4**, 528(1954). Another reference to the drug appears in the January 1955 issue of the same journal.

Sodium Ethylate—Source

Can you tell us where we can obtain powdered sodium ethylate?—W. E. D., Kentucky.

Sodium ethylate is listed in the catalogue of Amend Drug and Chemical Co., Inc., 117–119 E. 24th St., New York 10, N.Y.

Clorpactin—Source

Would appreciate any information on the drug clorpactin and where it may be obtained.—J. DeL., New York.

Clorpactin is a brand of monoxychlorosene, which is a source of hypochlorous acid. The product is marketed in bulk and as a buffered 1% solution by the Guardian Chemical Corporation, 10–15 43rd Avenue, Long Island City, N.Y.

Dettol Products—Source

Will you furnish information on Dettol products?—J. Y., California.

The following products are marketed by Reckitt and Colman Ltd., Hull & London, England. Dettol antiseptic contains chloroxylenol 3% (or equivalent dichloroxylenol) with terpineol 9%. Instrument Dettol contains chloroxylenol 6% with terpineol 12.5%, for disinfecting surgical instruments. Dettol Ointment contains chloroxylenol 0.5%, salicylic acid 0.2%, and menthol 0.2%. Dettol Obstetric Cream is a nongreasy product containing chloroxylenol 1.4% and terpineol 1.8%.

Dimethyl Phthalate Solution, Compound—Source of Ingredients

Can you inform us of sources of the ingredients for compound dimethyl phthalate solution U.S.P.?—A. B., Ecuador.

Dimethyl phthalate and ethohexadiol are available from Carbide and Carbon Chemicals Co., Division Union Carbide and Corp., 30 E. 42nd St., New York 17, N.Y.; and Distillation Products Industries, Eastman Organic Chemicals, Rochester 3, N.Y. Dimethyl phthalate is available also from Commercial Solvents Corp., 260 Madison Ave., New York 17, N.Y.; and Monsanto Chemical Co., 1700 S. 2nd St., St. Louis, Mo. Butopyronoxyl (indalone) is available from Carbide and Carbon Chemicals Co.; and U. S. Industrial Chemicals Co., Division National Distillers Products Corp., 99 Park Ave., New York 16, N.Y.

Progress in Medicine

Chronic Prostatitis—Fact or Fiction?

A report on a study of 449 "prostatitis" cases, 311 "healthy" males, and 155 cases of "nonspecific urethritis" is made by three Army physicians in *J.A.M.A.*, **160,** 540(Feb. 18, 1956). It is noted that the diagnosis of chronic prostatitis is usually liberally made to explain many of the vexing symptoms found in the male. Leukocytes in significant amounts were found in a similar percentage in the prostatic fluid of the three groups studied. The constituents of the prostatic fluid fluctuate with each examination, and recovery of an organism in a supposedly infected gland is difficult. The physicians hold that "the concept of chronic prostatitis as the cause of symptoms may frequently be one of fiction rather than fact."

Anti-Pregnancy Drug

A "family-planning" drug has been tested at Calcutta Bacteriological Institute and found highly effective in prevention of pregnancy. Chief ingredient of the compound was found in the seeds of a field pea, *Pisum sativum* L. S. N. Sanyal of the institute extracted an oil from the seeds, which was given to women in the form of muscular injections once a month, and appeared to prevent pregnancy. The oil was next divided into five compounds, of which the most effective was a *metazylohydroquinone.* In its latest form it is given in a capsule twice a month to prevent pregnancy. In trials with 127 patients, pregnancy rate was reduced by 73%. Use of the compound does not cause abortion, and pregnancies already begun have continued normally in spite of multiple and repeated dosage.

Pacatal (Mepazine)—Clinical Trial as Ataractic

Results of clinical administration of ataractic drugs (tranquilizers) to Canadian veterans with mental disease show chlorpromazine, promazine, and Pacatal to be very useful. The report by Dr. H. A. Bowes to the American Psychiatric Association's May meeting at Chicago noted that Pacatal (chemically related to chlorpromazine) was "the treatment of choice in manic excitement and schizoaffective psychoses." In the more chronic patients Pacatal was effective in the symptomatic treatment of aggression, destruction, restlessness, and insomnia. Pacatal, discovered in Germany in 1954, was supplied for clinical trial by Warner-Chilcott Laboratories. The drug is also known by the name Mepazine.

Marriage of Second Cousins

A medical consultant answers a physician's query in *J.A.M.A.*, May 12, by stating that it is all right for a girl to marry her second cousin—the grandson of her father's brother—if the ancestry on both sides for three generations was sound physically, intellectually, and emotionally. The consultant maintains that danger to any offspring of such a marriage would not be much greater than if the parents were unrelated.

Changes in Leading Causes of Death

The increasing ratio of death from noncommunicable diseases is characteristic of the mortality trends in this century. This is graphically illustrated in the Health Information Foundation bulletin *Progress in Health Services* for March 1956. Particularly noted are:

In 1900 the communicable diseases among the 10 leading causes of death accounted for 36% of our total deaths. Today, however, they account for only 5% of all deaths.

There has been an overall decline of 92% in the death rate from all communicable diseases since the turn of the century.

The death rate from tuberculosis declined 94% from 1900 to 1954. In fact, had the 1900 tuberculosis death rate prevailed in 1954, we would have had an additional 283,000 deaths from this cause, or more than the actual number of deaths from cancer, the second leading cause of death today.

Heart disease, the leading cause of death today, resulted in over 550,000 deaths in 1954; the death rate from this cause increased 129% from 1900 to 1954.

There were nearly 237,000 deaths from cancer in the United States in 1954. The death rate from this cause was 127% higher in 1954 than in 1900. Cancer accounted for only 4% of the total deaths in 1900 as compared to 16% in 1954.

Vascular lesions, including cerebral hemorrhage, are the third leading cause of death today, and accidents are fourth although they are the first cause of death for the ages 1 through 24 years.

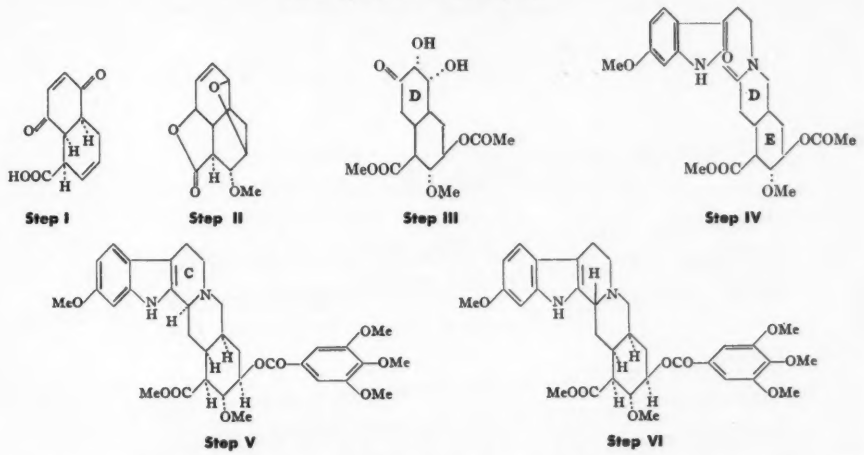
Presto Injector (i.m. and s.c.)

A device for making subcutaneous or intramuscular injections in a relatively painless manner consists of a series of metal cylinders for holding and very rapidly projecting a syringe and needle. When the instrument is cocked for use, the patient does not see the needle. The Presto injector was developed under the sponsorship of the Becton, Dickinson Company. It is suggested that the major field for use of the instrument will be in persons who require self-injection of drugs.

Meprobamate in Epilepsy

The tranquilizing drug meprobamate (Miltown) was credited with bringing relief to 83% of the patients with petit mal treated with the drug, according to a report by Dr. M. A. Perlstein at the April 27, 1956, meeting of the American Academy of Neurology at St. Louis. Two of every three patients, mostly children, showed improvement with a reduction in number and severity of seizures of 50–75%. Meprobamate was more effective in idiopathic petit mal than in organic types. In organic grand mal, meprobamate helped one of every three patients, but was of no help in grand mal of unknown cause. In some cases the drug aggravated grand mal, particularly the idiopathic type.

Total Synthesis of Reserpine



Step I: Diels-Alder condensation of *p*-benzoquinone and vinyl acrylic acid results in proper placement of three of reserpine's five hydrogens in the E ring. *Step II:* A series of reductions and oxidations complete placement of the five hydrogens. *Step III:* Ring D must be modified so it can be cleaved to give an intermediate suitable for combination with another part of the reserpine molecule. *Step IV:* The ring E platform and 6-methoxytryptamine are combined to make a new six-membered ring (D). *Step V:* C ring is closed and then hydrogen added at the sixth of the asymmetric carbon atoms of reserpine. This leaves the hydrogen at the back of the molecule (isoreserpine). *Step VI:* Bringing the hydrogen to the front of the molecule gives reserpine.

Reserpine Synthesized

Rauwolfia serpentina, the Himalayan plant, was known as a drug for centuries in India and later in Europe and England. Introduced, as the powdered drug, into the materia medica of the U.S. a few years ago, its most widely used active constituent, reserpine, was soon isolated. Now comes the astonishing announcement that the reserpine molecule has been synthesized by R. B. Woodward and his coworkers at Harvard University. This accomplishment was achieved within a year after the molecular structure of the alkaloid was determined. Other researchers, F. L. Weisenborn and P. A. Diassi at E. R. Squibb & Sons and C. Huebner and also M. Kuehne at Ciba, had developed other methods for some steps of the synthesis. The above outline of Woodward's procedure appeared in the May 7, 1956, issue of *Chem. Eng. News*.

Prednisolone Spray in Hay Fever

Reporting on a blind-placebo controlled study of 30 patients, Drs. Jack R. Anderson and Henry D. Ogden of New Orleans, in the Jan.–Feb. 1956 issue of *Annals of Allergy*, state: "Prednisolone is a rapidly acting and highly effective medication for topical use in the treatment of nasal allergy." Three different solutions, 0.5% and 1% of prednisolone (Delta-Cortef) and placebo, were each administered to all patients for a week. Between each treatment, a rest period of a week was inserted to prevent carry-over effects. For the first 48 hours, patients took one spray into each nostril every half hour. The dosage was then reduced to one spray four times daily for the balance of the week. "All patients reported varying degrees of subjective improvement" after using prednisolone sprays intranasally. The report continues that a 0.5% solution is sufficient for less advanced cases, while a 1% spray is necessary in more advanced patients. None of the patients who received the placebo solution showed any objective or subjective improvement. Frequent administration was used during the onset of therapy to achieve the high initial saturation necessary for such medication to be effective, the physicians report. This may be another explanation for poor results obtained previously with topical hydrocortisone therapy when used intranasally.

Formaldehyde Resins in Paper Tissues Can Cause Reaction

Paper facial tissues containing urea-formaldehyde or melamine-formaldehyde for added "wet strength" caused sensitivity reactions in 3 out of 50 subjects in a test reported in the April 7 issue of *J.A.M.A.* Drs. S. M. Peck and L. Palitz noted that the same patients did not react when untreated tissues were used. The 3 reactions among fifty patients were considered sufficiently significant that physicians were advised to do patch tests where facial tissues can be suspected of otherwise unexplained skin disease, supplemented with patch tests with 1 per cent formalin. They were also advised that the use of wet-strength tissues in the presence of breaks in the skin, such as following a cold, could definitely cause dermatitis.

Erythrocin in the treatment of pharyngitis*

9/12/55

DISCHARGE SUMMARY

Patient, male, age 40, entered hospital with history of sore throat starting 48 hours previous to admission.

Physical examination revealed throat to be infected and red with severe hyperplasia of lymphoid tissues. Throat culture revealed Group A beta hemolytic streptococcus.

Patient was started on 200 mg. of Erythrocin four times a day for three days. Subjective and objective improvement within 48 hours. No side effects. Three cultures taken subsequently did not show Group A beta hemolytic streptococcus.

Final Diagnosis: acute streptococcal pharyngitis.

Result: rapid and complete recovery with Erythrocin.

*Communication to Abbott Laboratories

specific against coccic infections

Specific—because you can actually pinpoint the therapy for coccic infections. That's because you know most bacterial respiratory infections are caused by staph-, strep- and pneumococci. And these are the very organisms most sensitive to ERYTHROCIN—even when they resist penicillin and other antibiotics.

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Erythrocin®
(Erythromycin Stearate, Abbott)
STEARATE

with little risk of side effects

Low toxicity—because ERYTHROCIN (in contrast to many other antibiotics) rarely alters intestinal flora. Thus, patients seldom get gastroenteral side effects. Or loss of vitamin synthesis in the intestine. No allergic reactions, either. *Filmtab* ERYTHROCIN Stearate (100 and 250 mg.), bottles of 25 and 100. Abbott

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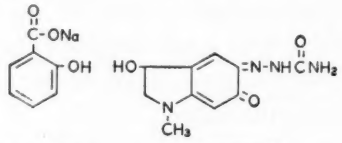
STEARATE

®Filmtab—film-sealed tablets; pat. applied for

605169

New and Nonofficial Remedies

CARBAZOCHROME SALICYLATE; Adrenosem Salicylate (Massengill); Adrenochrome monosemicarbazone sodium salicylate complex.—



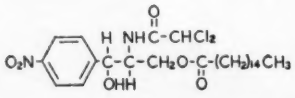
Sodium Salicylate — Adrenochrome Monosemicarbazone

Actions and Uses.—Carbazochrome salicylate is a derivative of adrenochrome, an oxidation product of epinephrine, proposed for systemic control of capillary bleeding characterized by increased capillary permeability. The drug does not affect blood pressure, cardiac rate or output, blood clotting mechanism, massive hemorrhage, or arterial bleeding. The use of the drug as a systemic hemostatic is based upon uncontrolled case reports of clinical observers who reported beneficial effects after oral or parenteral administration in controlling the bleeding associated with idiopathic purpura, retinal hemorrhage, familial telangiectasia, epistaxis, hemoptysis, and hematuria. Carbazochrome salicylate also is claimed to be of value in controlling postpartum hemorrhage and postoperative bleeding associated with tonsillectomy, adenoidectomy, surgery of the nasopharynx, prostate, bladder, chest, and teeth. The drug appears to be relatively nontoxic, and such untoward effects as might arise from repeated use are likely to result from sensitivity to the salicylate component.

In the reports of clinical studies so far available there is a lack of adequately controlled clinical evidence to prove that cessation of capillary bleeding can be attributed to the action of this drug. Its clinical usefulness for this purpose is scientifically unestablished.

Dosage.—The drug has been administered orally or intramuscularly. The proposed oral dose for adults ranges from 1 to 5 mg. four times daily. The intramuscular dose, which may produce pain during injection, is 5 mg. every 2 to 4 hours. Dosage for children is reduced proportionately.

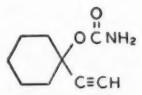
CHLORAMPHENICOL PALMITATE; Chloromycetin Palmitate (Parke, Davis).—D-(−)Threo-1-(*p*-nitrophenyl)-2-dichloroacetamido-1,3-propanediol 3-palmitate.—



Actions and Uses.—Chloramphenicol palmitate represents the esterification of the antibiotic to a tasteless substance for the purpose of circumventing the bitter taste inherent in the parent drug. In the upper intestinal tract, the ester is hydrolyzed back to free chloramphenicol by the action of pancreatic and intestinal lipases. Its chemotherapeutic activity therefore is produced almost solely by release of active chloramphenicol, since the ester itself is practically devoid of antimicrobial action. Absorption of released chloramphenicol is somewhat slower than that of the free antibiotic, but blood levels persist for longer periods of time. The ester may be employed in the treatment of all infections for which the parent drug is indicated. Since chloramphenicol palmitate possesses the same inherent toxicity as the parent drug, the restrictions specified under chloramphenicol apply also to the palmitate; thus, adequate blood studies should be made when prolonged or intermittent administration is required.

Dosage.—Chloramphenicol palmitate is given orally. Since the dosage is expressed in terms of the parent drug, it is the same as for orally given chloramphenicol.

ETHINAMATE; Valmid (Lilly).—1-Ethynylcyclohexyl carbamate.—



Actions and Uses.—Ethinamate is related chemically to the carbamate series of compounds, which exert only a feeble depressant effect, but it contains an ethinyl group that contributes to this action. It does not produce antipyretic, analgesic, or diuretic action, but it does exhibit a mild sedative effect on the central nervous system. Its duration of action is shorter than that produced by the barbiturate somnifacients. Ethinamate thus is useful chiefly as a hypnotic for the prompt induction of sleep in simple insomnia. When a single initial (bedtime) dose is effective for this purpose, the shorter action of the drug produces little or no hypnotic after-effect such as is occasionally observed with hypnotic doses of barbiturates; however, this possible advantage is likely to be lost in severe insomnia, when repeated doses of ethinamate are required to insure sleep throughout the night. For this reason, the drug is not primarily suited for use in patients requiring heavy or continuous sedation. The drug can be tried as a daytime sedative, however, for patients sensitive to barbiturates.

Ethinamate is readily absorbed by the gastrointestinal tract, and the major portion of the drug is rapidly destroyed in the body. About one-tenth to one-third of the oral dose is excreted in the urine. The liver is not the principal site of destruction of the drug in the body.

Ethinamate has not been found to produce toxic effects in man or experimental animals. Tachyphylaxis, tolerance, euphoria, and physical dependence have not been observed. The drug may be employed in the presence of impaired liver or kidney function, but until longer experience is gained, particularly with the prolonged use of the larger doses that may be required for effective hypnosis or continuous sedation, physicians should be alert for the occurrence of any unusual toxic effects.

Dosage.—Ethinamate is administered orally. The minimal effective hypnotic dose for adults is 0.5 Gm. taken 20 minutes before retiring. Some patients may require as much as 2 Gm. to induce sleep or a further dose on awakening before morning.

RADIO-IODINATED (I^{131}) SERUM ALBUMIN (HUMAN).—Radio-iodinated (I^{131}) serum albumin (human) is a stable preparation derived from the radioactive isotope, radioiodine (I^{131}), made by mild iodination of normal human serum albumin so that not more than one atom of iodine is introduced per 60,000 molecular weight of albumin. The radioactive component (I^{131}) emits negative beta particles and gamma radiation. The half-life of I^{131} is 8 days.

Actions and Uses.—Radio-iodinated (I^{131}) serum albumin (human) does not significantly differ in physical and chemical properties from the original protein, and when injected intravenously there is no transfer of radioactivity to other blood proteins. Thus the albumin behaves in the body like the normal plasma constituent. As supplied for injection in appropriately buffered isotonic sodium chloride solution, the preparation is adjusted to provide 0.3 to 1 mc. (millicurie) of radioactivity in approximately 10 mg. of human serum albumin per cc. and to reduce unbound I^{131} to less than 2%. Since there may be a very slow liberation of iodide in such solution, it should be stored at 2° to 10°C. and used within 4 weeks from the date of preparation.

After intravenous administration, complete mixing with the circulating blood occurs within 10 minutes. About 90% of the administered dose remains in the plasma at the end of one hour, and equilibrium between the blood and lymphatic systems is complete within 7 to 13 hours. It may appear in the spinal fluid 5 days after intravenous injection. During the first day after administration, 5 to 15% of the radioactivity is excreted in the urine (mostly as NaI^{131}) and about 5% is taken up by the thyroid; this apparently represents free I^{131} liberated by metabolic processes. It is estimated that 25 to 50% is eliminated during the first week. The urine is the chief route of elimination of radioiodine; the liver does not participate in its excretion. Metabolic studies reveal that detectable amounts remain in the blood and lymph up to 6 days, but smaller amounts may remain for several weeks.

The use of radio-iodinated (I^{131}) serum albumin (human) for determination of circulatory volume and time or for the measurement of cardiac output is based upon the principle of dilution of tagged albumin in the normal albumin pools of the body.

Dosage.—Radio-iodinated (I^{131}) serum albumin (human) is administered intravenously. The volume to be injected is determined on the basis of the dilution required to provide the desired radioactive dose from an isotonic sodium chloride solution with an assayed activity between 0.3 and 1 mc. per cc. The stated radioactivity assay of solutions at the time of shipment should be corrected for decay prior to administration, in accordance with a table of conversion factors based on the half-life of radioiodine.

BE ON
YOUR TOES—

Don't be caught napping

When a fire starts

Have sufficient protection

Consult Our Agent

For the determination of blood and plasma volumes, the dose ranges from 3 to 60 μc depending on the radiosensitivity of the counting equipment used. For the determination of blood circulation times, the dose ranges between 5 and 60 μc per pathway measured, depending on its vascular length and the sensitivity of the recording apparatus. Similar doses may be adequate for the determination of cardiac output. The dose should be kept as small as possible and should not exceed 200 μc in any one week.

As an adjunct in the detection and localization of brain tumors, a dose of 5 μc per Kg. of body weight may be sufficient when counting is done with scintillation counters or bismuth cathode Geiger-Muller tubes; if counting is to be done with the conventional Geiger-Muller tube, a somewhat higher dose may be desirable, but this should not exceed 500 μc (7 μc per Kg. of body weight in a patient weighing 70 Kg.). After intravenous administration of the appropriate dose, a period of 20 to 24 hours is allowed to elapse before systematic scanning of the skull is begun. Serial counts may be made to verify initial counts up to 40 to 48 hours. If a repeat localization study is indicated, a second dose should not be administered sooner than 30 days after the first dose.

Pharmacy Offers More to young men and women seeking successful and interesting careers, in professional community and hospital practice; distribution, manufacturing, research, development and sales; government, military and varied fields. Write for free catalog. Courses in Chemistry, Bacteriology, Biology also. B.Sc., M.Sc. and D.Sc. degrees from this modern yet oldest college of its type.

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NEW Prescription Products

All items on which information has been received in the past thirty days are reported here. Manufacturers are urged to send details of their new products as early as possible, so that pharmacists through these pages will have full information at the same time, or even before, products are detailed to the physician. For inclusion in this department, for which there is no charge, send descriptive literature to the Practical Pharmacy Edition, Journal of the American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington 7, D.C.

Ecolid Chloride Tablets

Description: Each pressure-coated tablet contains 25 mg. (ivory) or 50 mg. (pink) of chlorisondamine.

Indications: A ganglionic blocking agent for relief of moderate and severe hypertension.

Administration: As directed by physician in each case.

Form Supplied: Both sizes in bottles of 100 tablets.

Source: Ciba Pharmaceutical Products, Inc., Summit, N.J.

E-Ferol Succinate Capsules 200 I.U.

Description: Each odorless and tasteless capsule contains *d*-alpha tocopheryl acid succinate equivalent to 200 international units of vitamin E or 200 mg. of *dl*-alpha tocopheryl acetate.

Indications: In selected cases of threatened and habitual abortion, menopause, fibrositis, amyotrophic lateral sclerosis, peripheral vascular diseases, indolent leg ulcers, thrombophlebitis, and thromboangiitis obliterans.

Administration: One or more capsules daily.

Form Supplied: Bottles of 100, 500, and 1,000.

Source: Testagar & Co., Inc., Detroit, Mich.

Inversine Tablets

Description: Each tablet contains 2.5 mg. or 10 mg. of mecamylamine HCl (3-methylaminoisocamphene HCl).

Indications: A ganglionic blocking agent for reduction and control of high blood pressure.

Administration: Orally, carefully adjusted dosage for each patient.

Form Supplied: Both strengths in bottles of 100 tablets.

Source: Sharp & Dohme, Philadelphia, Pa.

Mepherin Tablets

Description: Each tablet contains: mephenesin, 300 mg.; betaine HCl, 60 mg.; and ethaverine HCl, 6 mg.

Indications: As a combined skeletal and smooth muscle relaxant in treatment of low back pain, disc syndrome, myositis, torticollis, lumbosacral strain, mild ureteral spasm, pylorospasm, and spastic colitis.

Administration: One or two tablets four times daily.

Form Supplied: Bottles of 100 and 1,000 tablets.

Source: The G. F. Harvey Company, Saratoga Springs, N.Y.

Meti-Derm Cream

Description: A water-washable cream containing 5 mg. of prednisolone per Gm.

Indications: For prompt relief in allergic skin reactions, localized neurodermatitis, and eczematoid dermatoses.

Administration: Rub gently on affected areas 3 or 4 times daily.

Form Supplied: 10-Gm. tubes.

Source: Schering Corporation, Bloomfield, N.J.

Neo-Delta-Cortef Eye-Ear Drops 0.25%

Description: A suspension, each cc. containing delta-1-hydrocortisone acetate, 2.5 mg. (0.25%), and neomycin sulfate, 5 mg., preserved with myristyl-gamma-picolinium chloride, 1:5000.

Indication: Initial treatment in acute ocular inflammations or infections of the external ear.

Administration: Topically, for the eye, 1 to 2 drops three or four times daily. For the ear, 2 or 3 drops in the external ear canal two or three times daily.

Form Supplied: 5-cc. bottle with dropper.

Source: The Upjohn Company, Kalamazoo, Mich.

Ritalin Tablets

Description: Tablets containing, in each, 5 mg. (yellow), 10 mg. (light blue), or 20 mg. (peach color) of methyl-phenidylacetate HCl (methyl-α-phenenyl-2-piperidineacetate HCl).

Indications: Mild stimulant in chronic fatigue and depressed states, including those associated with reserpine or chlorpromazine therapy. Contraindicated alone in cases of agitation.

Administration: Orally, 10 mg. two or three times daily with third dose preferably before 4–6 p.m.

Form Supplied: 5-mg. and 10-mg. tablets in bottles of 100, 500, and 1,000; 20-mg. tablets in bottles of 100 and 1,000.

Source: Ciba Pharmaceutical Products, Inc., Summit, N.J.

Serpatilin Tablets

Description: Each tablet contains reserpine, 0.1 mg., and Ritalin (methyl-phenidylacetate HCl), 10 mg.

Indications: In chronic fatigue and mild depressed states, with or without anxiety; tension and menopausal syndromes; lethargy; withdrawn, apathetic behavior; and psychoneuroses associated with depression.

Administration: One tablet two or three times daily, initial dose on awakening and final dose, in patients with insomnia, before 6 p.m. The effect of reserpine may not be noted for several days.

Form Supplied: Bottles of 100.

Source: Ciba Pharmaceutical Products, Inc., Summit, N.J.

Sterisil Vaginal Gel

Description: A gel containing 0.1% of hexetidine (bis - 1,3 - beta - ethylhexyl - 5 - methyl - 5 - amino-hexahydropyrimidine) in a water-soluble gum base acidified with lactic acid.

Indications: For treatment of vaginitis and cervicitis of trichomonal and monilial origin, and effective against *hemophilus vaginalis* in nonspecific vaginitis.

Administration: Topically inserted.

Form Supplied: Tubes of $1^1/_2$ oz. with 6 disposable applicators in each package.

Source: Warner-Chilcott Laboratories, Morris Plains, N.J.

Terrabon Homogenized Mixture

Description: A peach-flavored suspension of calcium dioxytetracycline containing 125 mg. oxytetracycline in each 5 cc.

Indications: For infections sensitive to oxytetracycline.

Administration: Orally, 1 teaspoonful every six hours.

Form Supplied: Bottles of 2 oz. and 1 pint.

Source: Pfizer Laboratories, Brooklyn 6, N.Y.

Tritheon Tablets

Description: Each tablet contains 100 mg. of aminitrozole (2-acetylamino-5-nitrothiazole).

Indications: Systemic treatment of trichomoniasis in the male and female.

Administration: One tablet 3 times daily for 10 days. To prevent reinfection both husband and wife should take same course of therapy.

Form Supplied: Bottles of 30 and 180 tablets.

Source: Ortho Pharmaceutical Corp., Raritan, N.J.

Trobex Injection

Description: An injectable solution containing in each cc.: methionine, 25 mg.; thiamine HCl, 50 mg.; niacinamide, 100 mg.; riboflavin (as -5-phosphate sodium), 2 mg.; choline chloride, 50 mg.; pyridoxine HCl, 2 mg.; panthenol, 4 mg.; with benzyl alcohol 1%.

Indications: In liver damage, and cirrhosis due to toxemia and eclampsia of pregnancy.

Administration: Intramuscularly or intravenously, 1–2 cc. daily.

Form Supplied: 30-cc. multiple-dose vials.

Source: Testagar & Co., Inc., Detroit, Mich.

Uritral Capsules

Description: Capsules containing in each: calcium mandelate, 200 mg.; methenamine, 200 mg.; phenylazodiaminopyridine HCl, 50 mg.; and sodium phosphate, monobasic, 80 mg.

Indications: In uncomplicated cystitis, pyelitis, pyelonephritis, prostatitis, nonspecific urethritis, and as a prophylactic against bacilluria, especially following instrumentation or surgery. Contraindicated in chronic glomerular nephritis, renal insufficiency, pyelonephritis of pregnancy, hepatitis, and uremia.

Administration: Adults, 2 capsules 3 or 4 times daily. Children over 6 years, 1 capsule three times daily.

Form Supplied: Bottles of 100 and 500 capsules.

Source: The Central Pharmacal Co., Seymour, Ind.

V-Cillin-Sulfa Tablets

Description: Each bluish green, scored tablet (Diskets) contains penicillin V, 125 mg. (200,000 u.); and 167 mg. each of sulfadiazine, sulfamerazine and sulfamethazine.

Indications: For susceptible streptococci, pneumococci, staphylococci, and other organisms; particularly useful in mixed infections of the urinary tract, respiratory system, and gastro-intestinal tract.

Administration: One to two tablets four times daily.

Form Supplied: Bottles of 50.

Source: Eli Lilly and Company, Indianapolis, Ind.

Other New Products

(Including chemicals, clinical trial drugs, diagnostic aids, and equipment for the retail and hospital pharmacy)

Cal-O-B Tablets

The Warren-Teed Products Co. has marketed prenatal and nutrition supplement tablets containing, in each: calcium glycerophosphate, 500 mg.; ferrous gluconate, 200 mg.; vitamin D_2, 1,000 u.; pyridoxine HCl, 1 mg.; ascorbic acid, 50 mg.; and the minerals: Mn 0.12 mg., I 0.14 mg., F 0.1 mg., Br 0.1 mg., Cu 0.75 mg., K 5 mg., Zn 1 mg., Mg 0.12 mg., Si 0.2 mg., Mo 0.1 mg., B 0.1 mg., Co 0.1 mg. Supplied in bottles of 100 tablets.

Cal-O-Nol w/Antihistamine

Paul Maney Laboratories, Inc., has marketed an emollient lotion containing: precipitated sulfur, resorcinol, calamine, zinc oxide, pyrilamine maleate, bentonite magma and calcium hydroxide for relief of skin irritations, allergy manifestations, insect bites and sunburn. Available in bottles of 4 oz. and 1 gal.

Co-Deltra 2.5 mg. and Co-Hydeltra 2.5 mg. Tablets

Tablets containing, in each, 2.5 mg. of prednisone or prednisolone with an outer coating containing dried aluminum hydroxide gel, 300 mg., and magnesium trisilicate, 50 mg. are marketed by *Sharp & Dohme.* These provide a higher antacid to steroid ratio than the 5-mg. tablets released earlier. Both forms are available in bottles of 30 tablets.

Doxinate Capsules 60 mg.

Lloyd Bros., Inc., has marketed Doxinate (dioctyl sodium sulfosuccinate) in green capsules containing 60 mg. in addition to their 20-mg. orange capsules.

Escherichia Coli Diagnostic Serums

E. Coli Diagnostic Serums (OB Serums) are the latest addition to the line of diagnostic agents offered by *Lederle Laboratories.* These serums are for

NEW *Prescription Products*

the laboratory identification of *Escherichia coli* antigens in freshly isolated living cultures, by means of macroscopic slide agglutination and tube agglutination test procedures. Recent medical investigations indicate that *E. Coli* may be the causative organism in many cases of epidemic infantile diarrhea. The following serums are available in 1-cc. quantities in screw cap vials: 026:B6, 055:B5, 0111:B4 and 0127:B8.

Gelfoam Powder, Sterile

A sterile powder form of Gelfoam for use as an adjunct to the treatment of chronic surface ulcers, has been marketed by *The Upjohn Company*. Available in 1-Gm. packages.

Hexatina Tablets

Tablets containing, in each, hexamethonium chloride, 125 mg., and reserpine, 0.1 mg., for treatment of hypertension, are marketed by *Testagar & Co., Inc.* Available in bottles of 100 and 1,000.

Hydrocortisone Acetate Aqueous Suspension

Philadelphia Ampoule Laboratories has marketed a suspension containing 25 mg. of hydrocortisone acetate per cc. in normal saline with methylparaben 0.24% and propylparaben 0.26%, for intra-articular injection. Available in 5-cc. multiple-dose vials.

Hydrocortisone Acetate Ointment

Ointments containing 1% or 2.5% of hydrocortisone acetate in cream base are marketed by *Bryant Pharmaceutical Corp.* for use in the management of allergic dermatoses, atopic dermatitis, and nonspecific ano-genital pruritis. Both strengths available in 5-Gm. and 20-Gm. clear plastic vials.

Kradon Tablets

Coated tablets, each containing: ephedrine ethylenediamine, 10.6 mg.; theobromine sodium acetate, 250 mg.; caffeine, 50 mg.; and acetophenetidin, 160 mg., for relief of premenstrual tension and spasmodic dysmenorrhea are marketed by *Field Laboratories, Inc.* in bottles of 60 tablets. The dosage is 1 or 2 tablets repeated in 2 hours.

Morphine and Codeine Injections

Morphine sulfate injection in single dose ampuls containing in each cc.: 1/6, 1/4, and 1/2 gr., and multiple-dose 20-cc. vials containing 1/4 gr. per cc.; and codeine phosphate injection in single dose ampuls containing in each cc.: 1/4, 1/2, and 1 gr., and multiple-dose 20-cc. vials containing 1/2 gr. per cc. are supplied by *The Vitarine Co., Inc.* In the March issue these products were erroneously accredited to The Bitarine Co., Inc.

Mybasal Tablets
Mybasal with Dipyrone Capsules

Each Mybasal with Dipyrone capsule contains; mephenesin, 195 mg.; para-aminobenzoic acid, 195 mg.; salicylamide, 195 mg.; dipyrone, 15 mg.; ascorbic acid, 10 mg.; niacinamide, 5 mg.; thiamine mononitrate, 2.5 mg.; and menadione, 0.35 mg. This analgetic, antipyretic, antispasmodic formulation is similar to that of Mybasal tablets with the additional dipyrone. The dipyrone combination is given orally; first day, 2 capsules after each meal and at bedtime. Maintenance doses are adjusted to the requirements of individual patients. Usually 1 capsule 4 times daily is adequate. *Caution:* If leukopenia develops, medication should be stopped at once. Mybasal is given initially 4–8 tablets followed by 2–3 tablets every 3-4 hours. Both forms are marketed by *Lloyd, Dabney & Westerfield, Inc.*, in bottles of 100.

Myoflex Creme

A topical analgetic containing triethanolamine salicylate 10% in a vanishing cream base, Myoflex Creme is marketed by *The Warren-Teed Products Co.* It is massaged into the skin for local relief for painful focal points of joint and muscle discomfort in certain arthritic, rheumatic and bursitis conditions.

Nembudeine Filmtab without Codeine

Tablets containing, in each: aspirin (aluminum salt), 210 mg.; acetophenetidin, 150 mg.; caffeine 30 mg.; and pentobarbital, 15 mg., are marketed by *Abbott Laboratories*. The dose as an analgetic sedative is one tablet at intervals of 3–4 hours. Available in bottles of 100 film-sealed tablets.

Neocydex Tablets

The Central Pharmacal Company has marketed analgetic, antidepressant, antiarthritic tablets containing, in each, methamphetamine HCl, 1.25 mg.; ammonium salicylate, 250 mg.; potassium *p*-aminobenzoate, 320 mg.; and ascorbic acid, 20 mg. Recommended dosage is 1 or 2 dark green, enteric coated tablets 3 or 4 times daily. Use with caution, if at all, in hypertensive states, hyperthyroidism, nephritis and cardiovascular diseases. Do not administer with sulfonamides. Available in bottles of 100, 500, and 1,000.

Neo-Delta-Cortef Eye-Ear Ointment

An ointment containing in each Gm. delta-1-hydrocortisone acetate, 2.5 mg. (0.25%); neomycin sulfate, 5 mg., has been marketed by *The Upjohn Company*. The ointment is applied topically by placing it in the conjunctival sac 3 or 4 times daily; or, in the treatment of otitis externa, the ear canal may be filled 1 to 3 times daily. Available in 1/8-oz. tubes with applicator tips.

Pre-Natal Capsules—New Formula

West-ward, Inc., has altered its formula for prenatal capsules to supply a phosphate-free mixture containing essential amounts of 15 vitamins and minerals and including calcium lactate, 328 mg., and pyridoxine HCl, 2 mg., in each capsule. Dosage during pregnancy and lactation is 3 capsules daily. Supplied in bottles of 100 and 1,000.

Topitracin
Kwell Lotion and Cream

These products, formerly marketed by Commercial Solvents Corp. and so listed in our March 1956 issue, p. 158, under the items Bacitracin and Benzene Hexachloride, Gamma, in the article by W. L. Weingold, are now marketed by Reed & Carnrick.

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Warning against Door-to-Door Sales

An open letter was sent to every pharmacy customer in its area by the Warren, Washington, and Saratoga County Pharmaceutical Association, pointing out that door-to-door peddlers representing various cosmetic, grocery, and household utensil companies are currently offering for sale vitamin products under the guise of "nutritional supplements." The letter states:

"We are not opposed to competition and free enterprise, but after reading some of the literature and hearing some of the sales talks advanced by these individuals, we feel obligated by the ethics of our profession to offer a word of caution and a suggestion.

"Vitamins, whether sold as vitamins or under other names, are products definitely classified as medicines and are listed as such in the *United States Pharmacopeia* and *National Formulary*, official books which list the various preparations classified as drugs by the Federal Food and Drug Administration. It is therefore logical that you should turn for advice on this matter to someone whose professional education qualifies him to speak with authority and accuracy on the subject, rather than to someone who can only offer you excerpts from a canned speech which his or her sales manager has prepared.

"Your pharmacist herewith offers his services at any time that you wish to discuss the matter of vitamins, and we feel sure that your family physician will likewise be glad to provide any information which you may desire regarding this subject.

"Also, we would like to emphasize that we have examined the products being offered by some of these peddlers and have found them to be much more expensive on the basis of vitamin content than the preparations which are available from the laboratories of any of the reliable and nationally known pharmaceutical companies throughout the nation, in spite of any claims that the peddlers may make.

"Don't be misled by a smooth-talking but unqualified salesman on this vital subject."

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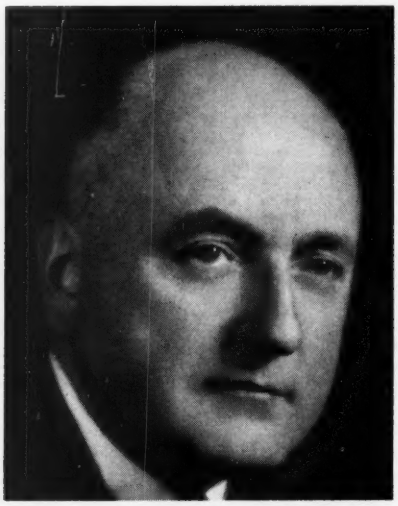
Dr. Hugh C. Muldoon, dean emeritus and founder of the Duquesne University School of Pharmacy, passed away on May 4, 1956 (See page 369).



Dr. Hugh C. Muldoon

A native of New York, Dr. Muldoon held the Ph.G. degree from the Albany College of Pharmacy, Union University, and the B.S. and D.Sc. degrees from Valparaiso University, where he became Dean of the School of Pharmacy following eight years of teaching at the Massachusetts and Albany Colleges of Pharmacy. He founded the School of Pharmacy at Duquesne in 1925.

Dr. Muldoon was a life member of the AMERICAN PHARMACEUTICAL ASSOCIATION, which he joined in 1913. In 1947 he was chairman of its House of Delegates and in 1949, a member of the A.PH.A. Mission to Japan. In 1952 he served brilliantly as National Chairman of the Committee on Centennial Celebration of the A.PH.A.

He was president of the American Association of Colleges of Pharmacy, a member of the U.S.P. Revision Committee, 1930–50, and an N.F. subcommittee member. He was also a member of the American Chemical Society, the Pennsylvania Academy of Science, Phi Delta Chi, Phi Delta Psi, Rho Chi, and Phi Sigma; also a Fellow of the A.A.A.S. and of the Royal Society of Arts, London. He wrote textbooks on chemistry and pharmaceutical Latin, and was editor of *The Science Counselor.*

In 1953, when he received pharmacy's highest award, the Remington Honor Medal, Dr. Muldoon marked the occasion with a memorable address which he captioned "The Strengths of Pharmacy."

Harvey F. Mack

WE REGRET to announce that Harvey F. Mack, Chairman of the Board of Directors of the Mack Printing Company, printers of THIS JOURNAL and of the National Formulary, passed away on May 29 at the age of 77. In the April issue of THIS JOURNAL we recorded Mr. Mack's appointment as Chairman of the Board of Directors of his company and referred to his life-long interest in the publication of scientific journals and his contribution to the progress of the scientific organizations which his firm serves. We join the staff of his firm, his family, and his many friends in recording our sorrow at his passing.

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